

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application No. : 10/804,585
Confirmation No. 7261
Applicant : Kathleen Nylund Jackson
Filed : March 18, 2004
Title : Progressive Game with Bonus
TC/A.U. : 3715
Examiner : Kang Hu

Docket No. : 247079-000299USPT
Customer No. : 70243

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

Dear Commissioner:

This Appeal Brief is filed pursuant to the Appellants' appeal to the Board of Patent Appeals and Interferences ("Board") from the final rejection of claims 1-8, 10, 15-21 and 23-28 in the March 17, 2010 Final Office Action. (Exhibit B). A Notice of Appeal is filed herewith. The due date for this Appeal Brief is two months from the mailing date of the Notice of Appeal and this brief is being timely filed. Applicant believes that pursuant to M.P.E.P. 1207.04, no fees are due because of the fees paid in conjunction with the previously submitted Appeal Brief

1. REAL PARTY IN INTEREST

The real party in interest of the above-captioned patent application is the Assignee, WMS Gaming, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in an appeal of this matter.

3. STATUS OF THE CLAIMS

Claims 1-8, 10, 15-21 and 23-28 remain in the application for further prosecution. Claims 9, 11-14 and 22 have been canceled previously.

4. STATUS OF AMENDMENTS

No amendments have been made subsequent to the last amendment filed on November 3, 2009.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Aspects of the present inventive subject matter include, but are not limited to, methods and systems for awarding randomly selected bonuses for selected ones of a community of players as shown in Figs. 1 and 5-11. Claim 1 generally relates to a method of playing a gaming system 10 played by a plurality of players where a jackpot is awarded. *See* ¶ 46, Figs. 1 and 5-11, U.S. Publication No. 2005/0014548¹ (Exhibit A), Specification, p. 11, ll. 11-25. Players play an underlying wagering game 20 in which wagers are made by players via a plurality of wager input devices 52, 54 and 58. (Ex. A, ¶¶ 35, 46, 50, Specification, p. 8, ll. 14-15, p. 11, ll. 20-25, p. 13,

¹ The Publication for the application at issue is being attached for convenience as Exhibit A. Applicant is also providing the corresponding specification page and line number in this and following sections.

11. 3-8). When an outcome occurs in the underlying wagering game 20 that identifies that a jackpot is to be awarded to at least one of the players, a special bonus event for all of the players presently playing the underlying wagering game is entered providing a chance to be awarded bonuses. (Ex. A, ¶¶ 35, 78, Specification, p. 8, ll. 15-18, p. 20, ll. 4-9). Bonuses to be awarded in the special bonus event are randomly selected via a processor 32. (Ex. A, ¶ 37, Specification, p. 8, ll. 23-25). More than one but less than all of the players are randomly selected to be awarded the randomly selected bonuses. (Ex. A, ¶¶ 37, 78, 87, Specification, p. 8, ll. 23-25, p. 20, ll. 9-12, p. 21, ll. 5-10). At least one player is excluded from being awarded any bonus. (Ex. A, ¶ 35, Specification, p. 8, ll. 15-17). The randomly selected bonuses are in addition to any awards the players may win during continued play of the underlying wagering game. (Ex. A, ¶ 77, Specification, p. 19, l. 25 to p. 20, l. 2).

Claim 21 generally relates to a method of playing a gaming system 10 played by a plurality of players where a jackpot is awarded. (Ex. A, ¶ 46, Specification, p. 11, ll. 20-25, Fig. 1). Players are permitted to play underlying wagering games 20 in which wagers are made by the players via wager input devices 52, 54 and 58. (Ex. A, ¶¶ 35, 50, Specification, p. 8, ll. 14-15, p. 13, ll. 3-8). When an outcome occurs in one of the underlying wagering games 20 that identifies that a jackpot is to be awarded to at least one player, a special bonus event for all players presently playing the underlying wagering games is entered providing a chance to be awarded bonuses. (Ex. A, ¶ 35, 78, Specification, p. 8, ll. 15-17, p. 20, ll. 5-9). Bonuses to be awarded are randomly awarded via a processor 32. (Ex. A, ¶ 37, Specification, p. 8, ll. 23-25). More than one but less than all players are randomly selected to be awarded the randomly selected bonuses in addition to any awards the some of the players may win during continued play of the underlying wagering games. (Ex. A, ¶¶ 37, 78, 87, Specification, p. 8, ll. 23-25, p.

20, ll. 9-12, p. 21, ll. 5-10). At least one player is excluded from winning any award. (Ex. A, ¶ 35, Specification, p. 8, ll. 15-17). The randomly selected bonuses are based upon a progressive bonus jackpot. (Ex. A, ¶ 89, Specification, p. 21, ll. 20-23).

6. GROUND S FOR REJECTION TO BE REVIEWED ON APPEAL

I. Whether claims 1-8, 16-21 and 23-26 and 28 were improperly rejected under 35 U.S.C. 102(e) as anticipated by Olsen (U.S. Patent No. 6,146,273 attached as Exhibit C)

II. Whether claims 10, 15 and 27 were improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen in view of Luciano (U.S. Pat. No. 6,887,154 attached as Exhibit D).

Claims 1-8, 16-21 and 23-26 and 28 are rejected under 35 U.S.C. 102(e) as being unpatentable over Olsen (Ex. C). With regard to claims 1 and 21, the Final Office Action asserted that Olsen teaches a method of playing a gaming system played by a plurality of players. (Ex. B, p. 2). The Final Office Action cited Col. 5, ll. 1-2 and 16-22 of Olsen as disclosing playing an underlying wagering game in which wagers are made by players. (Ex. B, p. 2). The Final Office Action asserts that Olsen discloses when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least one of the players, entering a special bonus event for all of the players citing Col. 7, ll. 50-53, fig. 4 and Col. 12, ll. 20-25. (Ex. B, p. 2). The Final Office Action noted that Olsen discloses randomly selecting bonuses to be awarded in the special bonus event citing Col. 16, l. 64 to Col. 17, l. 27. The Final Office Action asserts that Olsen discloses randomly selecting more than one but less than all of the players to be awarded the randomly selected bonus and excludes at least one player from being awarded any bonus. (Ex. B, p. 3). The Final Office Action notes that Olsen discloses the

randomly selected bonuses are in addition to any awards some of the players may win during continued play of the underlying wagering game citing Col. 17, ll. 46-61. (Ex. B, p. 3).

7. ARGUMENT

For the Board's convenience, claims 1-8, 10, 15-21 and 23-28 are one group that will stand or fall together. The present claims allow for some but not all random players playing over multiple gaming terminals the opportunity to be selected for a random award when one of the players triggers a communal bonus event. The random bonuses are triggered by an outcome of the underlying wagering game which awards a jackpot. Neither of the references of record disclose these concepts.

A. Claims 1-8, 10, 15-21 and 23-28 Were Improperly Rejected Under 35 U.S.C. 103(a) As Being Anticipated By Olsen

1. The Deficiencies in Olsen

The Olsen reference cited by the Final Office Action discloses a bonus type scheme based on connecting a controller component to existing banks of machines without modifying the machines themselves. For example, Fig. 2 shows a controller 200 that is coupled to existing gaming machines G1-Gk having interface cards via a network 202. (Ex. C, Col. 7, ll. 3-28). Since the controller in Olsen is added to a network of existing machines, but cannot be implemented within the machines themselves, the Olsen bonus may only be triggered by the coin-in (contributions) from each machine. The controller in Olsen cannot trigger the bonus based on game outcomes because there is no teaching of modifying the existing machines to send outcome data to the controller. Each coin-in contribution from the gaming machines increments a current value 220. (Ex. C, Col. 7, ll. 30-39). Once the current value 220 exceeds a

bonus mode activation trigger 218, a bonus mode time period is announced. (Ex. C, Col. 7, ll. 50-60).

2. Olsen Does Not Trigger A Special Bonus Event When An Outcome Occurs In The Underlying Wagering Game That Identifies A Jackpot

Claims 1 and 21 require that “when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least one of said players,” “a special bonus event for all of said players presently playing the underlying wagering game” is entered. In other words, one of the players must be awarded a jackpot as a result of a game outcome to trigger the special bonus event. Olsen does not anticipate these claims because the awarded bonus event in Olsen is triggered by the coin in of one of the eligible machines and not a jackpot awarded on one of the machines based on a game outcome. (Ex. C, Col. 7, ll. 50-60) For example, Olsen explains that “upon insertion of monetary value into that machine ... will increment 244 the current value 220 to equal or exceed 246 the bonus mode activation trigger value 218 to start 248 the bonus mode time period.” (Ex. C, Col. 7, l. 67 to Col. 8, l. 5, emphasis added).

The Final Office Action has cited Col. 7, ll. 50-53 of Olsen as disclosing a jackpot to be awarded to at least one of said players. (Ex. B, p. 2). However, this section only states that when “the current value 220 equals or exceeds 246, the controller 200 starts 248 the bonus mode time period.” (Ex. C, Col. 7, ll. 50-52). This section does not disclose awarding a jackpot to at least one of the players when a game outcome occurs or the awarding of the jackpot triggering the special event. In fact, this section teaches away from this element since it is the coin-in (contribution) that is collected from a player, before any game outcome occurs, to increment the current value 220 and potentially trigger the bonus game (Ex. C, Col. 7, ll. 31-36). The bonus in

Olsen is not triggered by the game outcome, it is triggered by coin-in occurring before any game outcome that may be determined.

The Final Office Action also cited Fig. 4, element 248 which is the start bonus mode and Col. 12, ll. 20-25 of Olsen as disclosing triggering a jackpot award. (Ex. B, p. 2). Fig. 4 is a timing diagram that does not disclose triggering the start bonus mode 248 by a player being awarded a jackpot as a result of an outcome in the underlying game. In fact, Fig. 4 shows that a monetary value bet by player P8 triggers the bonus mode time period by causing the current value 220 to equal the bonus mode activation trigger 218. (Ex. C, Col. 11, ll. 13-21). This jackpot is therefore awarded before any game outcome occurs and is thus not triggered by a game outcome. Col. 12, ll. 20-25 discusses eligibility criteria and does not disclose the condition to start the bonus mode as the awarding of a jackpot from an outcome of the underlying game as required by these claims. (Ex. C).

The Final Office Action ignored the above arguments in the response to arguments section by focusing exclusively on Olsen teaching triggering the jackpot award to at least one player. (Ex. B, p. 5). As explained above, Applicant continues to contend that claims 1 and 21 are not anticipated by Olsen, because Olsen does not disclose entering a special bonus event when a jackpot is awarded to at least one player when an outcome occurs in the underlying wagering game. Such a process is impossible with Olsen because Olsen uses a controller that is externally coupled to receive the coin in data from existing gaming machines and cannot determine whether any game outcome has occurred on any of the gaming machines. Claims 1 and 21 and their dependents are therefore allowable over Olsen.

3. Olsen Does Not Disclose Excluding One Player And Randomly Selecting More Than One But Less Than All of the Players To Be Awarded Randomly Selected Bonuses

Independent claim 1 requires “excluding at least one player from being awarded any bonus” in addition to “randomly selecting more than one but less than all of said players to be awarded the randomly selected bonuses and excluding at least one player from any bonus.” Independent claim 21 requires “excluding at least one player from winning any award.” Olsen does not anticipate either of these elements because all of the eligible players may win the bonus award and none of these players are excluded. As explained above, the possibility of being excluded heightens the excitement in anticipation of the bonus award in the present claims.

The Final Office Action cites Col. 14, ll. 8-10 of Olsen as disclosing excluding at least one player from being awarded any bonus. (Ex. B, p. 3). This section simply discloses that a random selector 270 randomly selects gaming machines to award bonus jackpots. (Ex. C, Col. 14, ll. 8-10). Olsen does not disclose specifically excluding any players from being awarded any bonus award. The Final Office Action also cites Col. 16, ll. 24-30 as disclosing “never selected to receive a bonus.” (Ex. B, p. 3). This section only discloses that players may receive the bonus as long as they place unit bets. (Ex. C, Col. 16, l. 24-26). Nothing in this or any other section discloses specific exclusion of a player from being awarded a bonus since all players that place bets may receive the bonus award. Since, Olsen does not disclose exclusion of a player being awarded a bonus, claims 1 and 21 are allowable over Olsen.

B. Claims 10, 15 and 27 Were Improperly Rejected Under 35 U.S.C. 103(a) As Unpatentable Over Olsen In View Of Luciano.

Claims 10, 15 and 27 are allowable for the same reasons that independent claims 1 and 21 are allowable.

8. CLAIMS APPENDIX

A clean copy of the claims 1-8, 10, 15-21 and 23-28 involved in the appeal is included in the Claims Appendix.

9. EVIDENCE APPENDIX

A copy of the evidence relied upon by the appellant is included in the Evidence Appendix and is herein referenced. A list of evidence and where each was entered in the record is included in the Index to the Appendices.

10. RELATED PROCEEDINGS APPENDIX

As there are no related proceedings, no information is provided in the Related Proceedings Appendix.

Conclusion

For at least the foregoing reasons, the final rejection of appealed claims 1-8, 10, 15-21 and 23-28 set forth in the Final Office Action mailed March 17, 2010, should be reversed.

Respectfully submitted,

Date: May 28, 2010

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ATTORNEY FOR APPLICANT

CLAIM APPENDIX

CLAIM APPENDIX
CLEAN COPY OF CLAIMS ON APPEAL

1. A method of playing a gaming system played by a plurality of players where a jackpot is awarded, the method comprising:

players playing an underlying wagering game in which wagers are made by players;
when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least one of said players, entering a special bonus event for all of said players presently playing the underlying wagering game, the special bonus event providing a chance to be awarded bonuses;

randomly selecting bonuses to be awarded in the special bonus event; and
randomly selecting more than one but less than all of said players to be awarded the randomly selected bonuses and excluding at least one player from being awarded any bonus, said randomly selected bonuses being in addition to any awards some of said players may win during continued play of the underlying wagering game.

2. The method of claim 1 wherein the underlying game is a casino table game.

3. The method of claim 1 wherein the underlying game is played on a slot-type wagering apparatus.

4. The method of claim 3 wherein the slot-type wagering apparatus is a networked wagering apparatus.

5. The method of claim 4 wherein the jackpot is a progressive jackpot.

6. The method of claim 3 wherein the bonuses do not decrement the jackpot.

7. The method of claim 4 wherein the bonuses do not decrement the jackpot.

8. The method of claim 5 wherein the bonuses do not decrement the jackpot.

10. The method of claim 1 further comprising excluding the player who received the jackpot from being randomly awarded a bonus from the special bonus events.
15. The method of claim 5 further comprising excluding the player who received the progressive jackpot from being randomly awarded the bonus from the special bonus event.
16. The method of claim 4 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.
17. The method of claim 8 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.
18. The method of claim 5 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.
19. The method of claim 7 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.
20. The method of claim 16 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.
21. A method of playing a gaming system played by a plurality of players where a jackpot is awarded, the method comprising:

permitting players to play underlying wagering games in which wagers are made by the players;

when an outcome occurs in one of the underlying wagering games that identifies that a jackpot is to be awarded to at least one player, entering a special bonus event for all players presently playing the underlying wagering games, the special bonus event providing a chance to be awarded bonuses;

randomly selected bonuses to be awarded; and

randomly selecting more than one but less than all players to be awarded the randomly selected bonuses in addition to any awards the some of the players may win during continued play of the underlying wagering games but excluding at least one player from winning any award, wherein the randomly selected bonuses are based upon a progressive bonus jackpot.

23. The method of claim 21, wherein the underlying game is a casino table game.
24. The method of claim 21, wherein the underlying game is played on a slot-type wagering apparatus.
25. The method of claim 24, wherein the slot-type wagering apparatus is a networked wagering apparatus.
26. The method of claim 21, wherein the bonuses do not decrement the jackpot.
27. The method of claim 21 further comprising excluding the player who is awarded the jackpot from being randomly awarded a bonus from the special bonus events.
28. The method of claim 21 wherein the randomly selected bonuses are selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

EVIDENCE APPENDIX

EVIDENCE APPENDIX

STATEMENT WHERE EVIDENCE WAS ENTERED BY THE EXAMINER

The evidence relied on in this brief under tabs C-D was entered into the record at least in the Final Office Action dated March 17, 2010. The remaining documents under tabs A-B are entries in the file history whose dates speak for themselves and are being provided for the convenience of the Board.

LIST OF EVIDENCE

U.S. Publication No. 2004/0242320	A
Final Office Action Dated March 17, 2010	B
U.S. Patent No. 6,146,273 ("Olsen")	C
U.S. Patent No. 6,887,154 ("Luciano")	D

INDEX TO THE APPENDICES

INDEX TO THE APPENDICES

SUBJECT

EXHIBIT

CLAIM APPENDIX

EVIDENCE APPENDIX

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U.S. Patent No. 6,887,154 ("Luciano")	D

RELATED PROCEEDINGS APPENDIX

EXHIBIT A



US 20040242320A1

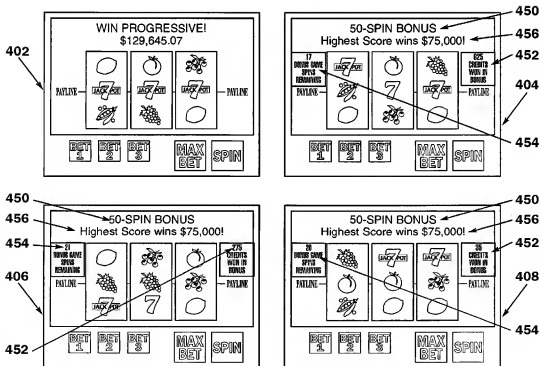
(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2004/0242320 A1**
(43) Pub. Date: **Dec. 2, 2004**(54) **PROGRESSIVE GAME WITH BONUS**(52) U.S. Cl. **463/26**(76) Inventor: **Kathleen Nylund Jackson, Scituate, MA (US)**(57) **ABSTRACT**

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A method of providing all players on a linked network to receive a bonus opportunity based on one player hitting the primary jackpot. All players in an active game, (i.e., the reel spinning mode has been activated by the player bet, and the reels have not yet stopped) receive a bonus opportunity when the primary jackpot is hit. This bonus can be in many different forms. Examples of bonuses are of "scratch tickets" to players that would distribute varying amounts, or a secondary jackpot bonus of a fixed amount or an amount in proportion to the main jackpot, randomly assigned bonuses, an immediately available mini-jackpot for less than jackpot hands, and a period of time of increased pay amounts or an amount of mini-jackpot that is exhausted by players who are playing the game at the time of the jackpot. An alternative bonus would incorporate a specific time span after the primary jackpot is hit in which all players on the network will have the chance for a bonus payoff or prize, without having to achieve the extremely high rank of the jackpot award.

(21) Appl. No.: **10/804,585**(22) Filed: **Mar. 18, 2004****Related U.S. Application Data**

(60) Provisional application No. 60/457,813, filed on Mar. 25, 2003.

Publication Classification(51) Int. Cl.⁷ **A63F 9/24**

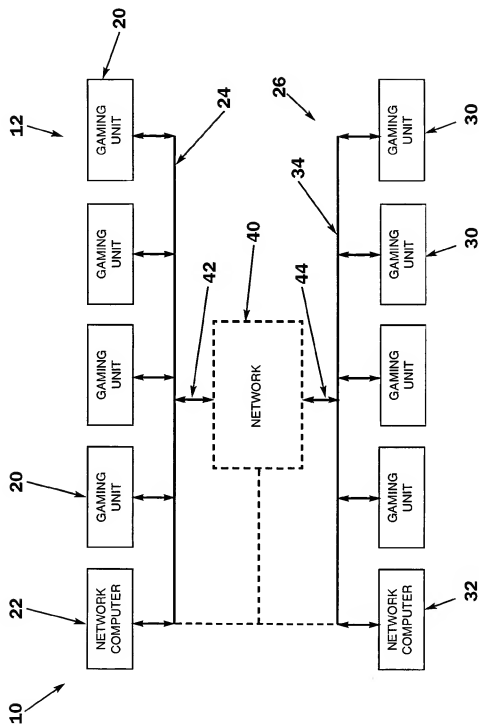


FIG. 1

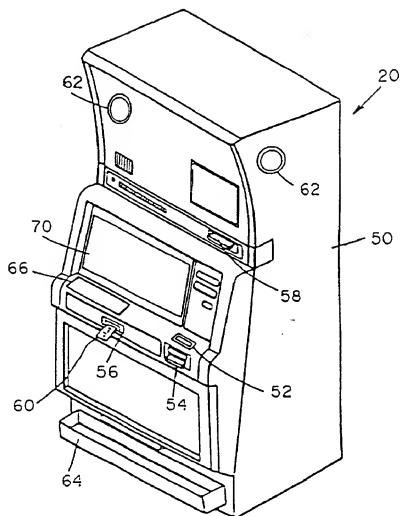


FIG. 2

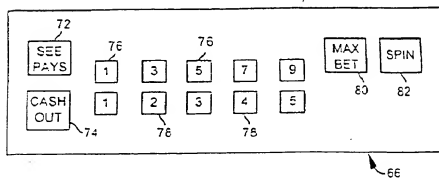


FIG. 2A

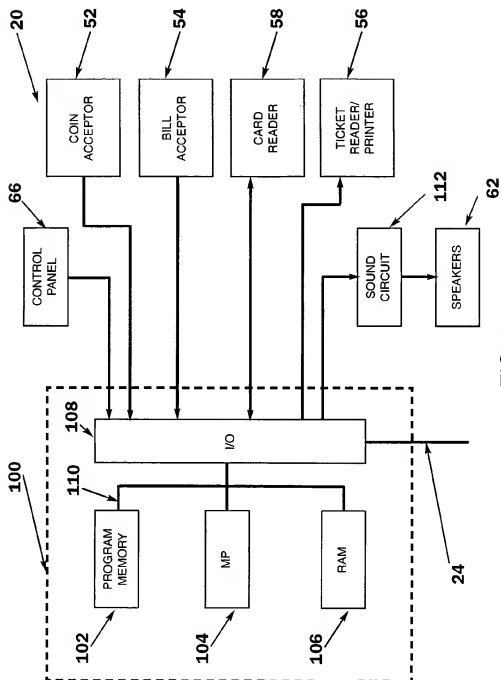


FIG. 3

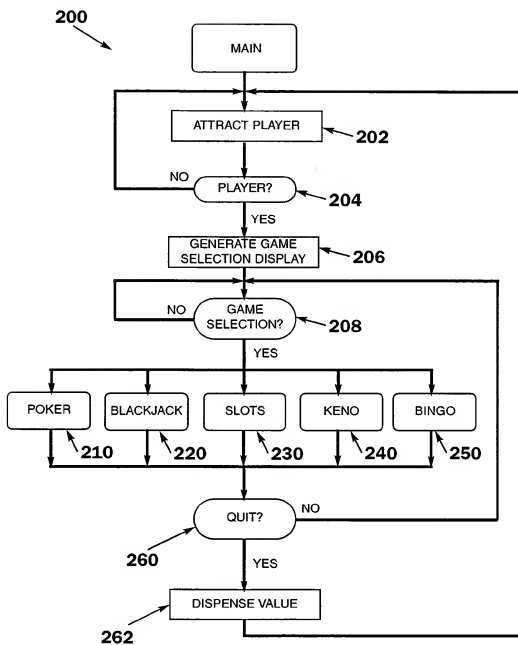


FIG. 4

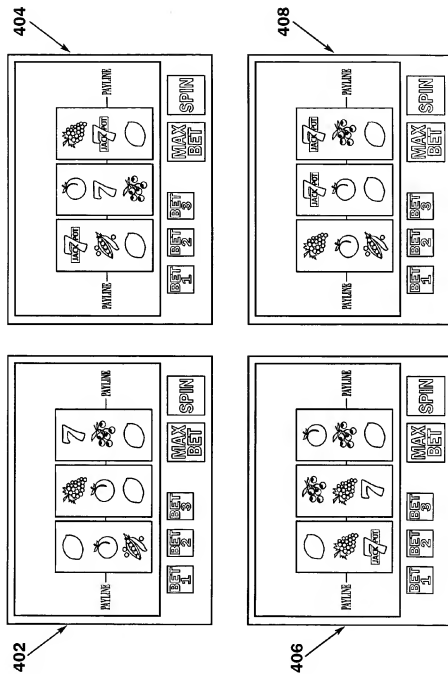


FIG. 5

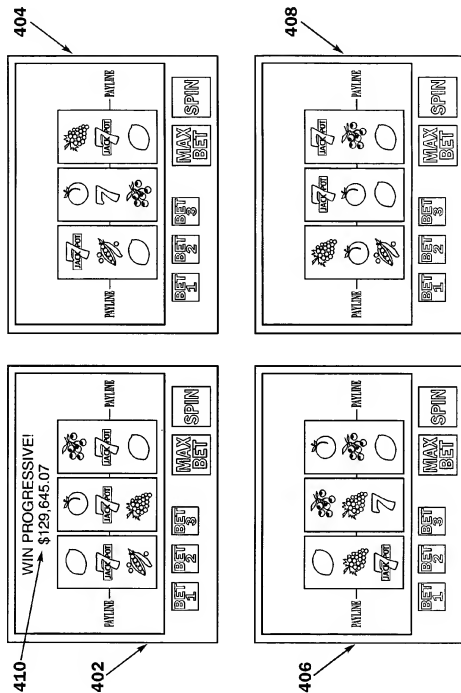


FIG. 6

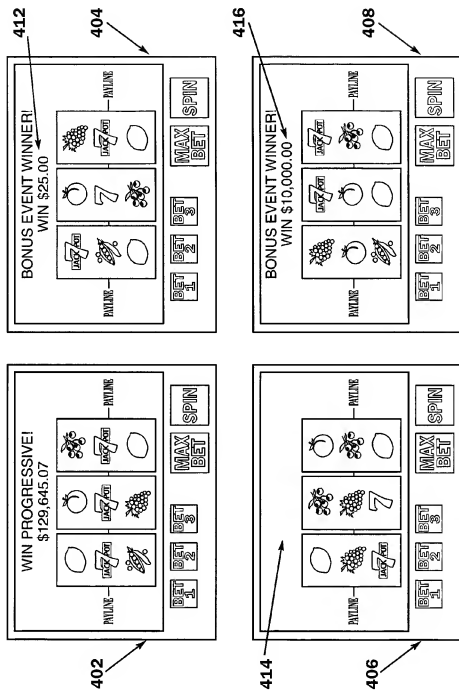


FIG. 7

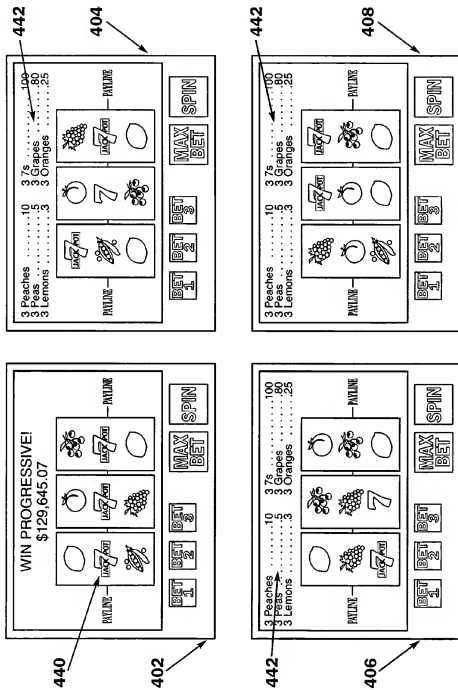


FIG. 7A

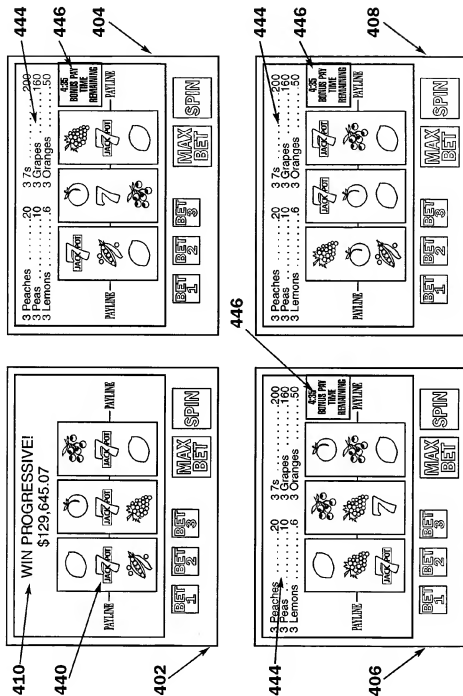


FIG. 7B

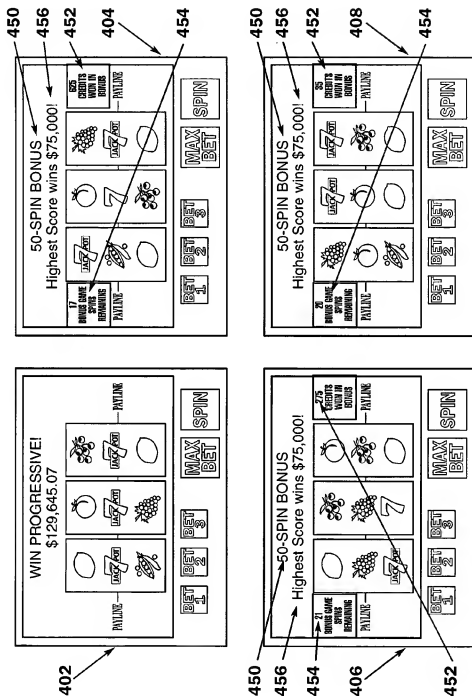


FIG. 8

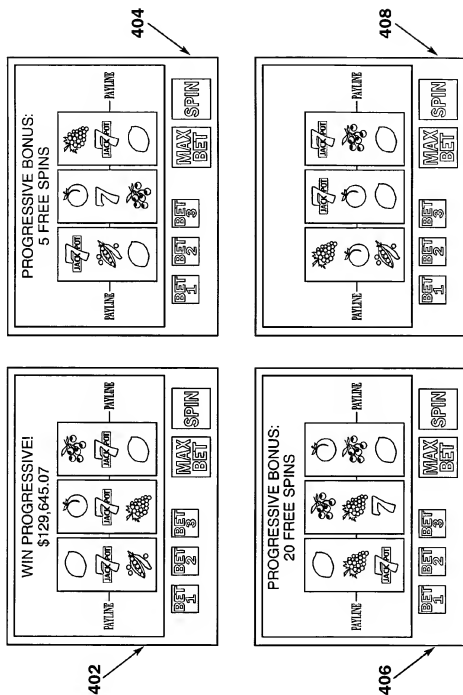


FIG. 9

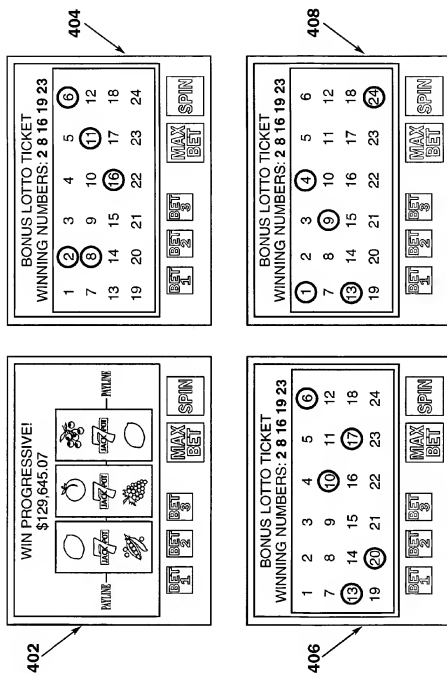


FIG. 10

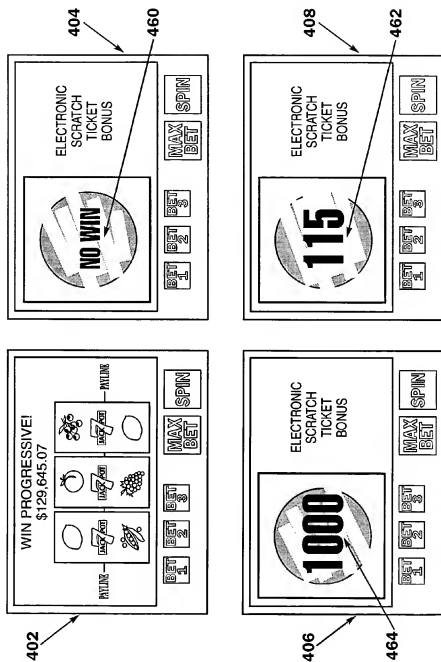


FIG. 11

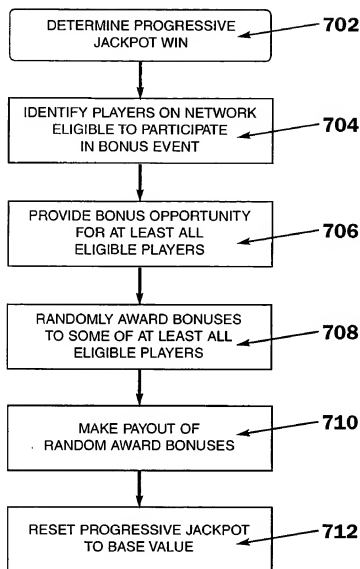


FIG. 12

PROGRESSIVE GAME WITH BONUS**RELATED U.S. APPLICATION DATA**

[0001] This Application claims priority from U.S. Provisional Application Serial No. 60/457,813 filed on Mar. 25, 2003.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to gaming play, jackpot or bonus systems in gaming play, and bonus play in gaming that distributes money among a plurality of players playing gaming systems when a jackpot is achieved by one player.

[0004] 2. Background of the Art

[0005] Gaming play is usually considered in two distinct formats, table gaming and slot gaming. Table gaming is the form of wagering where one or more players is present at a table and the house (casino) manages the play of the game, taking and paying off wagers on events that are supervised by the house. Traditional table games include, for example, roulette, craps, blackjack, poker games, poker-like games, Casino War, Candy wheel games, baccarat, Acey-Deucey, matching symbol (or card) games, and the like. Conventional Keno would be considered a table game, even though players are not required to sit at single table. Poker and poker-like games include all of the many variants, including at least Let It Ride® poker, Three Card® poker, High Five® poker, Caribbean Stud® poker, 4-Card stud poker, wild card poker games, and the like.

[0006] Slot gaming is a term that derived from the fact that the original games required that coins be wagered in an apparatus by placing coins into a slot. Today, coins, currency, cash cards, credit cards, house cards, account cards, or any other system that can track moneys wagered at a machine and assure collection by the casino are useful wagering formats in slot machine. The slot machine is any apparatus (mechanical, electrical, or electromechanical) in which a player wagers amounts of value (money or credits or debt) in the play of a game that is performed on or displayed by the machine. Originally, slot machines were mechanical devices with spinning wheels or reels, or mechanically arranged cards or panels. A wager was made and the machine was caused (e.g., by pulling a lever) to randomly display images or symbols in a display area. Wagers were won by symbols that were predetermined to be winners. One of the earlier forms of predetermined winning collections of symbols was poker hands. When poker hands of at least minimum ranks were displayed, the device or an attendant would award the player for the value of the hand. Reel-type slot machines display artificial symbols (e.g., cherries, bells, lemons, oranges, 7's, plums, bars, double bars, triple bars, special symbols, etc.) and provide a pay table that identifies winning hands which are paid by the house. Slot machines have progressed from purely mechanical system where power is provided by the players' arms, to electromechanical systems, to purely electronic systems with games actually played by a local or distal processor (computer) and the results displayed on a display system (e.g., CRT, plasma display, liquid crystal display, LED display, etc.). The use of electronic games has greatly increased the flexibility and variety of games that can be played on slot machines.

[0007] In both table games and slot machines, the use of jackpots and especially progressive jackpots has been very successful in the gaming industry, attracting many players to the potential for large jackpot payouts. Progressive jackpots have been particularly successful as the jackpot increases over time, reaching dramatic amounts of tens of millions of dollars in some cases. Large jackpot casino table games include Let It Ride® poker and Caribbean Stud® poker. Many slot machines and video gaming systems have progressive jackpots that are either locally connected in banks of machines or more widely based networks among different casinos in the same jurisdiction or region. Networked systems have produced many high value progressive bonus awards, as best exemplified by the Megabucks® slot game. By having games networked, many players are contributing a portion of their wagers to the jackpot, and the many contributions by players increase the jackpot rapidly.

[0008] One of the deficiencies of progressive jackpots is that the normal payout to the player must be smaller to both build up the jackpot and provide the house with its required profit margin on wagers. This tends to slant play of progressive games to more heavy play as the progressive jackpot grows, while play diminishes as soon as a jackpot is awarded. This has led to attempts to either moderate the growth of the jackpot to assure higher payout frequencies and lower house retention during normal play. This has been merely a balancing act that has not improved the play or attractiveness of the progressive games.

[0009] U.S. Pat. No. 5,580,063 describes a gambling game in which a collateral gambling game is played that can be won by players on at least one specific event occurring in the principal game. The collateral game is separate from the principal game, but one when any of the possible winning events occur in the principal game, the payment to the player is calculated from the total value available for the game divided by the total number of players who bet on the specific winning event. The game gives a possibility for a large number of players to share in the success of a single player who has successfully won the main game. It may be used with various types of games including those using electronic gaming machines.

[0010] U.S. Pat. No. 6,224,482 describes a random prize awarding system associated with a gaming console is provided in which the gaming console is arranged to play a first game or a second game, the first game being a standard game normally offered on the console and the second game being a jackpot game offered for play when the player has achieved a trigger condition where the trigger means is arranged to test for the trigger condition and to initiate an instance of the second game when the trigger condition occurs. The second game is divided into a plurality of sub-games, each having an incremental prize such that a sum of the un-won incremental prizes equals the total currently available jackpot prize value of the second game. The player is awarded each sub-game after the first, only if the incremental prize was won in the previous sub-game. The jackpot prize value being decremented by the incremental prize value awarded with the occurrence of each winning sub-game. The additional bonus is potentially awarded only to the player that has won the jackpot.

[0011] U.S. Pat. No. 6,375,568 describes an interactive gaming process and system. The system comprises a plu-

rality of gaming machines to be played by plurality of players. The system can be configured such that the gaming machines are either located in a casino or at internet locations. Each gaming machine comprises a wagering game and a theme game, respectively. The wagering game has features that correspond to the theme game wherein the results of the wagering game influence the results of the theme game as the wagering game is being played. The system also includes a controller for electronically linking the gaming machines and providing stimuli to the gaming machines so as to effect gaming machine outputs that are impartial and random. In one embodiment, the plurality of players play the wagering game as a group wherein if one player's theme game results meet predetermined criteria, that particular player will play for the group. The group will then have the opportunity to split a jackpot. In another embodiment, the plurality of players play as a group wherein activation of each player's wagering game either helps or hinders the group as a whole in its effort to achieve a predetermined goal. In a further embodiment, the players play their respective wagering game so as to directly compete against each other in the theme game. The results of the wagering games determine the winnings of each player, the eventual winner of the theme game and/or any predetermined jackpot.

[0012] U.S. Pat. No. 6,089,980 describes a method of a shared jackpot system of a gambling apparatus unit is provided, where the gambling apparatus unit comprises a plurality of coin-operated gambling machines. The gambling machines are linked to each other and jointly fill a jackpot. A predetermined part of the gambling bet of each gambling machine is employed to fill the jackpot. The filling level of the jackpot is displayed on each gambling machine and with a large display. A communication board is coordinated to each gambling apparatus in addition to a control unit. Upon actuation of the gambling machines, it is automatically determined which one of the gambling machines assumes the control in the form of a master. The master gambling machine monitors whether a jackpot trigger value is present. In case a jackpot trigger value is present, a command sequence is sent to all linked gambling machines. At the same time there occurs a final game in the gambling machines based on the command sequence. A rank sequence and a winning quota, respectively, is determined based on the predicted game result and the actual game result, wherein the rank sequence and the winning quota, respectively, represents a distribution key for the jackpot.

[0013] U.S. Pat. No. 6,336,862 describes a method for distributing a progressive jackpot among players at progressive linked gaming machines comprising: providing a plurality of gaming machines, each of said gaming machines being capable of a) accepting a bet of an amount of money from a player, b) after accepting said bet, performing a play cycle initiated by said player, and c) generating an outcome of said play cycle, said outcome being one of a plurality of possible outcomes, at least one of said outcomes being a progressive jackpot-winning outcome; collecting betting data from said gaming machines, said betting data representing said amounts of money bet by players at each of said machines; determining from said betting data the value of a progressive jackpot; detecting the occurrence of said progressive jackpot-winning outcome at one of said gaming machines; and, upon the occurrence of said progressive jackpot-winning outcome, distributing at least a portion of

said progressive jackpot among a plurality of eligible players, all of whom will receive a portion of said jackpot, selected from among said players playing at said plurality of gaming machines, said eligible players being selected independently of any of said outcomes at said plurality of said gaming machines. A plurality of progressive jackpots are accumulated and distributed upon the occurrence of a progressive jackpot-winning outcome.

[0014] U.S. Pat. No. 6,168,523 describes a system of linked gaming machines has each of the linked gaming machines connected to a common controller. In a normal mode of play, each of the linked gaming machines operates like a conventional machine where the generation of certain combinations of symbols provides awards to the individual players whose machines generate such combinations. In addition to this normal mode of play, a bonus feature is added where the generation of combinations of bonus symbols is used by a central controller to build up a pooled bonus value based upon the values of the combinations of bonus symbols generated by all the linked gaming machines. When a player hits a combination which causes the accumulated bonus value to meet or exceed a predetermined value, a bonus award is given to the player which caused the threshold to be exceeded.

[0015] U.S. Published Patent Application Ser. No. 20030045337 describes a gambling game having a collateral gambling game which can be won by players on at least one specific event occurring in the principal game, the collateral game being separate from the principal game but one when any of the possible winning events occur in the principal game, the payment to the player being calculated from the total value available for the game divided by the total number of players who bet on the specific winning event. The game gives a possibility for a large number of players to share in the success of a single player who has successfully won the main game. It may be used with various types of games including those using electronic gaming machines.

[0016] Other disclosures of play and events in bonus and jackpots include U.S. Pat. No. 6,435,968 (progressive wagering system); U.S. Pat. No. 6,431,983 (incentive to play networked games); U.S. Pat. No. 6,416,409 (progressive bonus); U.S. Pat. No. 6,364,768 (networked devices w/bonus); U.S. Pat. No. 6,358,149 (bonus promotions in systems); U.S. Pat. No. 6,231,445 (bonus awards on networks); U.S. Pat. No. 6,217,448 (Linked machine bonus system); U.S. Pat. No. 6,210,277 (game of chance); U.S. Pat. No. 6,102,474 or U.S. Pat. No. 6,102,799 (super jackpot bonus funding); U.S. Pat. No. 6,012,982 (bonus awards on networks); U.S. Pat. No. 5,885,158 (progressive system); U.S. Pat. No. 5,766,076 (progressive betting system); U.S. Pat. No. 5,580,309 (linked gaming machines); U.S. Pat. No. 5,564,700 (progressive payout method); and U.S. Pat. No. 5,280,909 (progressive jackpot). Other disclosures include Published U.S. patent applications 20030148808 (personal wide area progressive); 20030064776 (shared success); 20030036430 (competitive linked play); 20030027618 (shared success); 20020155874 (shared success); 20020151345 (shared success); 20020138594 (wide area program); and 20010036857 (jackpot system).

[0017] Published U.S. patent application 2003/0186733 A1 describes a gaming apparatus that may include a display unit capable of generating video images, a value input

device, and a controller operatively coupled to the display unit and the value input device. The controller may include a processor and a memory operatively coupled to the processor, and may be programmed to allow a person to make a wager. The controller may also be programmed to cause a video image to be generated on the display unit. The video image may represent a game, such as video poker, video blackjack, video slots, video keno or video bingo. The controller may be programmed to determine a value payout associated with an outcome of the game, to compare the value payout to a threshold amount, and to generate a distributed jackpot payout message if the value payout is greater than or equal to the threshold amount.

[0018] In spite of these many variations on jackpots and progressive jackpots, additional improvements are desired.

SUMMARY OF THE INVENTION

[0019] A jackpot game is played by a plurality of players at the same time. Preferably the game is a progressive jackpot game played at a table, networked tables, slot machine bank or slot machine network. Players in the game at the time that a jackpot is won are given the opportunity to win a special bonus or mini-jackpot. The award of the special bonus or mini-jackpot is preferably randomly determined (either by continued play of the game or by random selection from the central processor). Certain safeguards can be applied to the system of play to make certain that there is sufficient impact from the potential award of the bonus or mini-jackpot, as by requiring that a minimum number of players be on-line on the system or in the game at the time that the special bonus or mini-jackpot is being awarded.

BRIEF DESCRIPTION OF THE FIGURES

[0020] FIG. 1 is a block diagram of an embodiment of a gaming system;

[0021] FIG. 2 is a perspective view of an embodiment of one of the gaming units shown schematically in FIG. 1;

[0022] FIG. 2A illustrates an embodiment of a control panel for a gaming unit;

[0023] FIG. 3 is a block diagram of the electronic components of the gaming unit of FIG. 2;

[0024] FIG. 4 is a flowchart of an embodiment of a main routine that may be performed during operation of one or more of the gaming units;

[0025] FIG. 5 is an image of four screen shots of four linked gaming machines;

[0026] FIG. 6 is an image of four screen shots of four linked gaming machines;

[0027] FIG. 7 is an image of four screen shots of four linked gaming machines;

[0028] FIG. 7A is an image of four screen shots of four linked gaming machines;

[0029] FIG. 7B is an image of four screen shots of four linked gaming machines;

[0030] FIG. 8 is an image of four screen shots of four linked gaming machines;

[0031] FIG. 9 is an image of four screen shots of four linked gaming machines;

[0032] FIG. 10 is an image of four screen shots of four linked gaming machines where a keno-type award is provided;

[0033] FIG. 11 is an image of four screen shots of four linked gaming machines where a ticket-type award is provided;

[0034] FIG. 12 is a flow diagram of one method of play according to the invention;

DETAILED DESCRIPTION OF THE INVENTION

[0035] An underlying game is played that provides a jackpot or progressive jackpot. The basic play of the underlying game is preferably unaltered. When one player wins the jackpot or bonus jackpot, it is preferred that the winning player is excluded from the special bonus play or mini-jackpot play event that then occurs. A special bonus event or mini-jackpot event is then entered. With a networked slot gaming system, there are many alternative bonus systems that can be provided. These special bonus systems may include at least one or more of the following components:

[0036] I. Immediate Random Bonus

[0037] Upon one player in a networked gaming system winning a jackpot, a central computer identifies machines that are in active use and randomly assigns bonuses to less than all of the machines. The bonuses or mini-jackpot(s) may be immediately awarded or awarded over a fixed amount of time or fixed amount of play by the combined network machines. For example, all amounts designated to be provided in the special bonus play may be required by the central computer to be assigned to random machines within a specific period of time (1 minute, five minutes, fifteen minutes, half-an-hour, etc.), or within a specified number of plays of the machines on the network (e.g., within one play, ten plays, one-hundred plays, five-hundred plays, 1,000 plays or the like). The amounts of the payout may be fixed amounts (e.g., \$50,000, \$25,000, \$10,000, \$1,000, \$500, \$100, \$25, etc.) an amount equal to a percentage of the jackpot (e.g., 10% or 5% or 1% or 0.2% of the amount of the jackpot, with the amount taken out of the jackpot pool, or preferably independently of the jackpot pool, even from a separate accumulating mini-pool.

[0038] II. Immediate Play Bonus

[0039] Upon a player in a networked system winning a jackpot, a central computer identifies machines that are in active use (or in this case all machines may be activated in bonus play) and alters the basic pay table of the underlying game, preferably for a limited amount of time or for that time over which it takes to award a total amount of funds to players on the system. This play will be described for use with networked poker games, only because of the simplicity of working with pay tables for that type of game, but the description is equally applicable to conventional reel-type slot pay tables and keno table or even blackjack games with bonus events (e.g., four straight blackjacks). If the jackpot triggering event is a Royal Flush with cards in descending order from left-to-right, the occurrence of that hand in one machine on the networked system causes the central com-

puter to respond. The computer signals one or more gaming apparatus on the network that a bonus event or mini-jackpot event is occurring. This can be done by alphanumerics or displays on or around the gaming apparatus, sounds, light displays, or combinations thereof. If, for example, the original pay table for the poker game was

Royal Flush	Jackpot or 2000X (with less than maximum wager)
Straight Flush	500X
Four-of-a-Kind	250X
Full House	50X
Flush	8X
Straight	7X
Three-of-a-Kind	3X
Two Pair	2X
Jacks or Better	1X

[0040] Upon the achievement of the descending royal flush on one networked machine, the pay table may be changed to show awards of

Royal Flush	2000X (with less than maximum wager)
Straight Flush	1000X
Four-of-a-Kind	500X
Full House	100X
Flush	10X
Straight	9X
Three-of-a-Kind	5X
Two Pair	4X
Jacks or Better	2X

[0041] Other payable variations may be made so that continued play is promoted for a specific time period or until at least or approximately a predetermined amount of awards are provided during bonus play. For example, the central computer will stop the special bonus after the specified time period or after \$50,000 has been awarded during special bonus play (either total or as excess awards, that is for the above Four-of-a-Kind, 500X–250X=250X excess award).

[0042] III. Mini-Jackpot Award

[0043] After the central computer has been notified that the Jackpot or Progressive Jackpot has been won, preferably with an accompanying signal or alert to every machine already in operation that the mini-jackpot even will begin, the central computer will initiate the bonus event. What can be done is that a mini-jackpot amount is identified (e.g., \$100,000, \$75,000, \$50,000, an amount that is a percentage of the original jackpot amount, preferably without detracting from that jackpot amount) and the highest ranking hand within a specific time period after the mini-jackpot event begins wins the mini-jackpot. Awards may be given for a number of hands (the first three highest hands; the first ten highest hands; or the first 100 highest hands, for example), with ties being given a pro rata share of the mini-jackpot. For example, the mini-jackpot may be \$25,000 highest hand, \$10,000 second highest hand, \$2,000 third highest hand, and \$500 for each of the fourth through 100th highest hands achieved within one-half hour after the Progressive Jackpot has been won. If the hands achieved during that time period included a) Four Queens, b) two hands of 10's full over a pair of sixes, and hands descending from sevens full,

the four Queens would be awarded \$25,000, the 10's full would each get \$6,000 (\$10,000 plus \$2,000 divided by two), and each of the next highest hands would get \$500.

[0044] IV. Free Play Awards

[0045] After the central computer has been notified that the Jackpot or Progressive Jackpot has been won, preferably with an accompanying signal or alert to every machine already in operation that the Free Play award will begin, each machine or selected machines will be awarded negotiable or non-negotiable free play spins on the individual machines. All machines in active play will be awarded the free spins, only random machines may be awarded free spins, and/or different numbers of free spins may be assigned among the various machines. By non-negotiable, it is meant that even though the free spins may be equivalent in effect to actual credit awards, they cannot be cashed in as they could when credits are awarded.

[0046] FIG. 1 illustrates an embodiment of a casino gaming system 10 in accordance with the invention. Referring to FIG. 1, the casino gaming system 10 may include a first group or network 12 of casino gaming units 20 operatively coupled to a network computer 22 via a network data link or bus 24. The casino gaming system 10 may include a second group or network 26 of casino gaming units 30 operatively coupled to a network computer 32 via a network data link or bus 34. The first and second gaming networks 12, 26 may be operatively coupled to each other via a network 40, which may comprise, for example, the Internet, a wide area network (WAN), or a local area network (LAN) via a first network link 42 and a second network link 44. The first network 12 of gaming units 20 may be provided in a first casino, and the second network 26 of gaming units 30 may be provided in a second casino located in a separate geographic location than the first casino. For example, the two casinos may be located in different areas of the same city, or they may be located in different states. The network 40 may include a plurality of network computers or server computers (not shown), each of which may be operatively interconnected. Where the network 40 comprises the Internet, data communication may take place over the communication links 42, 44 via an Internet communication protocol.

[0047] The network computer 22 may be a host computer, a server computer, or one of the gaming units 20, and may be used to accumulate and analyze data relating to the operation of the gaming units 20. For example, the network computer 22 may continuously receive data from each of the gaming units 20 indicative of the dollar amount and number of wagers being made on each of the gaming units 20, data indicative of how much each of the gaming units 20 is paying out in winnings, data regarding the identity and gaming habits of players playing each of the gaming units 20, etc. The network computer 32 may be a server computer and may be used to perform the same or different functions in relation to the gaming units 30 as the network computer 22 described above.

[0048] Although each network 12, 26 is shown to include one network computer 22, 32 and four gaming units 20, 30, it should be understood that different numbers of computers and gaming units may be utilized. For example, the network 12 may include a plurality of network computers 22 and tens or hundreds of gaming units 20, all of which may be interconnected via the data link 24. The data link 24 may

provided as a dedicated hardwired link or a wireless link. Although the data link 24 is shown as a single data link 24, the data link 24 may comprise multiple data links.

[0049] FIG. 2 is a perspective view of one possible embodiment of one or more of the gaming units 20. Although the following description addresses the design of the gaming units 20, it should be understood that the gaming units 30 may have the same design as the gaming units 20 described below. It should be understood that the design of one or more of the gaming units 20 may be different than the design of other gaming units 20, and that the design of one or more of the gaming units 30 may be different than the design of other gaming units 30. Each gaming unit 20 may be any type of casino gaming unit and may have various different structures and methods of operation. For exemplary purposes, various designs of the gaming units 20 are described below, but it should be understood that numerous other designs may be utilized.

[0050] Referring to FIG. 2, the casino gaming unit 20 may include a housing or cabinet 50 and one or more input devices, which may include a coin slot or acceptor 52, a paper currency acceptor 54, a ticket reader/printer 56 and a card reader 58, which may be used to input value to the gaming unit 20. A value input device may include any device that can accept value from a customer. As used herein, the term "value" may encompass gaming tokens, coins, paper currency, ticket vouchers, credit or debit cards, and any other object representative of value.

[0051] If provided on the gaming unit 20, the ticket reader/printer 56 may be used to read and/or print or otherwise encode ticket vouchers 60. The ticket vouchers 60 may be composed of paper or another printable or encodable material and may have one or more of the following informational items printed or encoded thereon: the casino name, the type of ticket voucher, a validation number, a bar code with control and/or security data, the date and time of issuance of the ticket voucher, redemption instructions and restrictions, a description of an award, and any other information that may be necessary or desirable. Different types of ticket vouchers 60 could be used, such as bonus ticket vouchers, cash-redemption ticket vouchers, casino chip ticket vouchers, extra game play ticket vouchers, merchandise ticket vouchers, restaurant ticket vouchers, show ticket vouchers, etc. The ticket vouchers 60 could be printed with an optically readable material such as ink, or data on the ticket vouchers 60 could be magnetically encoded. The ticket reader/printer 56 may be provided with the ability to both read and print ticket vouchers 60, or it may be provided with the ability to only read or only print or encode ticket vouchers 60. In the latter case, for example, some of the gaming units 20 may have ticket printers 56 that may be used to print ticket vouchers 60, which could then be used by a player in other gaming units 20 that have ticket readers 56.

[0052] If provided, the card reader 58 may include any type of card reading device, such as a magnetic card reader or an optical card reader, and may be used to read data from a card offered by a player, such as a credit card or a player tracking card. If provided for player tracking purposes, the card reader 58 may be used to read data from, and/or write data to, player tracking cards that are capable of storing data representing the identity of a player, the identity of a casino, the player's gaming habits, etc.

[0053] The gaming unit 20 may include one or more audio speakers 62, a coin payout tray 64, an input control panel 66, and a color video display unit 70 for displaying images relating to the game or games provided by the gaming unit 20. Such images may include distributed jackpot information. The audio speakers 62 may generate audio representing sounds such as the noise of spinning slot machine reels, a dealer's voice, music, announcements or any other audio related to a casino game. The input control panel 66 may be provided with a plurality of pushbuttons or touch-sensitive areas that may be pressed by a player to select games, make wagers, make gaming decisions, etc.

[0054] FIG. 2A illustrates one possible embodiment of the control panel 66, which may be used where the gaming unit 20 is a slot machine having a plurality of mechanical or "virtual" reels. Referring to FIG. 2A, the control panel 66 may include a "See Pays" button 72 that, when activated, causes the display unit 70 to generate one or more display screens showing the odds or payout information (which may include distributed jackpot information) for the game or games provided by the gaming unit 20. As used herein, the term "button" is intended to encompass any device that allows a player to make an input, such as an input device that must be depressed to make an input selection or a display area that a player may simply touch. The control panel 66 may include a "Cash Out" button 74 that may be activated when a player decides to terminate play on the gaming unit 20, in which case the gaming unit 20 may return value to the player, such as by returning a number of coins to the player via the payout tray 64.

[0055] If the gaming unit 20 provides a slots game having a plurality of reels and a plurality of paylines which define winning combinations of reel symbols, the control panel 66 may be provided with a plurality of selection buttons 76, each of which allows the player to select a different number of paylines prior to spinning the reels. For example, five buttons 76 may be provided, each of which may allow a player to select one, three, five, seven or nine paylines.

[0056] If the gaming unit 20 provides a slots game having a plurality of reels, the control panel 66 may be provided with a plurality of selection buttons 78 each of which allows a player to specify a wager amount for each payline selected. For example, if the smallest wager accepted by the gaming unit 20 is a quarter (\$0.25), the gaming unit 20 may be provided with five selection buttons 78, each of which may allow a player to select one, two, three, four or five quarters to wager for each payline selected. In that case, if a player were to activate the "5" button 78 (meaning that five paylines were to be played on the next spin of the reels) and then activate the "3" button 78 (meaning that three coins per payline were to be wagered), the total wager would be \$3.75 (assuming the minimum bet was \$0.25).

[0057] The control panel 66 may include a "Max Bet" button 80 to allow a player to make the maximum wager allowable for a game. In the above example, where up to nine paylines were provided and up to five quarters could be wagered for each payline selected, the maximum wager would be 45 quarters, or \$11.25. The control panel 66 may include a spin button 82 to allow the player to initiate spinning of the reels of a slots game after a wager has been made.

[0058] In FIG. 2A, a rectangle is shown around the buttons 72, 74, 76, 78, 80, 82. It should be understood that

that rectangle simply designates, for ease of reference, an area in which the buttons 72, 74, 76, 78, 80, 82 may be located. Consequently, the term "control panel" should not be construed to imply that a panel or plate separate from the housing 50 of the gaming unit 20 is required, and the term "control panel" may encompass a plurality or grouping of player activatable buttons.

[0059] Although one possible control panel 66 is described above, it should be understood that different buttons could be utilized in the control panel 66, and that the particular buttons used may depend on the game or games that could be played on the gaming unit 20. Although the control panel 66 is shown to be separate from the display unit 70, it should be understood that the control panel 66 could be generated by the display unit 70. In that case, each of the buttons of the control panel 66 could be a colored area generated by the display unit 70, and some type of mechanism may be associated with the display unit 70 to detect when each of the buttons was touched, such as a touch-sensitive screen.

[0060] FIG. 3 is a block diagram of a number of components that may be incorporated in the gaming unit 20. Referring to FIG. 3, the gaming unit 20 may include a controller 100 that may comprise a program memory 102, a microcontroller or microprocessor (MP) 104, a random-access memory (RAM) 106 and an input/output (I/O) circuit 108, all of which may be interconnected via an address/data bus 110. It should be appreciated that although only one microprocessor 104 is shown, the controller 100 may include multiple microprocessors 104. Similarly, the memory of the controller 100 may include multiple RAMs 106 and multiple program memories 102. Although the I/O circuit 108 is shown as a single block, it should be appreciated that the I/O circuit 108 may include a number of different types of I/O circuits. The RAM(s) 104 and program memories 102 may be implemented as semiconductor memories, magnetically readable memories, and/or optically readable memories, for example.

[0061] FIG. 3 illustrates that the control panel 66, the coin acceptor 52, the bill acceptor 54, the card reader 58 and the ticket reader/printer 56 may be operatively coupled to the I/O circuit 108, each of those components being so coupled by either a unidirectional or bidirectional, single-line or multiple-line data link, which may depend on the design of the component that is used. The speaker(s) 62 may be operatively coupled to a sound circuit 112, that may comprise a voice- and sound-synthesis circuit or that may comprise a driver circuit. The sound-generating circuit 112 may be coupled to the I/O circuit 108.

[0062] As shown in FIG. 3, the components 52, 54, 56, 58, 66, 112 may be connected to the I/O circuit 108 via a respective direct line or conductor. Different connection schemes could be used. For example, one or more of the components shown in FIG. 3 may be connected to the I/O circuit 108 via a common bus or other data link that is shared by a number of components. Furthermore, some of the components may be directly connected to the microprocessor 104 without passing through the I/O circuit 108.

[0063] One manner in which one or more of the gaming units 20 (and one or more of the gaming units 30) may operate is described below in connection with a number of flowcharts which represent a number of portions or routines

of one or more computer programs, which may be stored in one or more of the memories of the controller 100. The computer program(s) or portions thereof may be stored remotely, outside of the gaming unit 20, and may control the operation of the gaming unit 20 from a remote location. Such remote control may be facilitated with the use of a wireless connection, or by an Internet interface that connects the gaming unit 20 with a remote computer (such as one of the network computers 22, 32) having a memory in which the computer program portions are stored. The computer program portions may be written in any high level language such as C, C++, C++ or the like or any low-level, assembly or machine language. By storing the computer program portions therein, various portions of the memories 102, 106 are physically and/or structurally configured in accordance with computer program instructions.

[0064] FIG. 4 is a flowchart of a main operating routine 200 that may be stored in the memory of the controller 100. Referring to FIG. 4, the main routine 200 may begin operation at block 202 during which an attraction sequence may be performed in an attempt to induce a potential player in a casino to play the gaming unit 20. The attraction sequence may be performed by displaying one or more video images on the display unit 70 and/or causing one or more sound segments, such as voice or music, to be generated via the speakers 62. The attraction sequence may include a scrolling list of games that may be played on the gaming unit 20 and/or video images of various games being played, such as video poker, video blackjack, video slots, video keno, video bingo, etc.

[0065] During performance of the attraction sequence, if a potential player makes any input to the gaming unit 20 as determined at block 204, the attraction sequence may be terminated and a game-selection display may be generated on the display unit 70 at block 206 to allow the player to select a game available on the gaming unit 20. The gaming unit 20 may detect an input at block 204 in various ways. For example, the gaming unit 20 could detect if the player presses any button on the gaming unit 20; the gaming unit 20 could determine if the player deposited one or more coins into the gaming unit 20; the gaming unit 20 could determine if player deposited paper currency into the gaming unit 20; etc.

[0066] The game-selection display generated at block 206 may include, for example, a list of video games that may be played on the gaming unit 20 and/or a visual message to prompt the player to deposit value into the gaming unit 20. While the game-selection display is generated, the gaming unit 20 may wait for the player to make a game selection. Upon selection of one of the games by the player as determined at block 208, the controller 100 may cause one of a number of game routines to be performed to allow the selected game to be played. For example, the game routines could include a video poker routine 210, a video blackjack routine 220, a slots routine 230, a video keno routine 240, and a video bingo routine 250. At block 208, if no game selection is made within a given period of time, the operation may branch back to block 202.

[0067] After one of the game routines 210, 220, 230, 240, 250 has been performed to allow the player to play one of the games, block 260 may be utilized to determine whether the player wishes to terminate play on the gaming unit 20 or

to select another game. If the player wishes to stop playing the gaming unit 20, which wish may be expressed, for example, by selecting a "Cash Out" button, the controller 100 may dispense value to the player at block 262 based on the outcome of the game(s) played by the player. The operation may then return to block 202. If the player did not wish to quit as determined at block 260, the routine may return to block 208 where the game-selection display may again be generated to allow the player to select another game.

[0068] It should be noted that although five gaming routines are shown in FIG. 4, a different number of routines could be included to allow play of a different number of games. The gaming unit 20 may also be programmed to allow play of different games.

[0069] FIG. 5 shows screen shots of four different linked machines 402, 404, 406 and 408.

[0070] FIG. 6 shows screen shots of four different linked machines 402, 404, 406 and 408 in which the progressive award is noted as announcement 410 on screen 402. A general notice of a jackpot win at another machine (clearly identified so as not to give false indication of the primary jackpot win) may be similarly placed on screen 404, 406 and 408.

[0071] FIG. 7 shows screen shots of four different linked machines 402, 404, 406 and 408. Absolute win amounts (as opposed to fractions of the progressive jackpot) are shown to be awarded on Screens 404 and 408 as \$25.00 (412) and \$10,000.00 (416), respectively. The space 414 remains blank on screen 406 where no random bonus was selected for that machine.

[0072] FIG. 7A shows a first machine 402 with a jackpot payline 440, and the three separate machines 404, 406 and 408 showing standard paytables 442.

[0073] FIG. 7B shows that the pay tables on screen 404, 406 and 408 (444) have been uniformly altered (increased) upon the indication of the jackpot line win 440 and the progressive win notice 410 on the first machine 402. The pay tables may be differentially changed among machines also, with random selection of machines 404, 406 and 408 being made to receive different pay tables as the adjunct bonus event. A countdown clock 446 shows the amount of time remaining for the increased paytables.

[0074] FIG. 8 shows uniform spin bonuses 450 awarded to random players on occurrence of the progressive win on machine 402. An indicator of the number of remaining spins (454) and a running tally of the total credits won per machine during the bonus (452) also appear on the eligible linked machines 404, 406 and 408. The highest total achieved during the bonus spin event may win an absolute amount (\$75,000.00, for example) as shown in screen announcement 456.

[0075] FIG. 9 shows the random award of different numbers of free spins on machines 404, 406 and 408, with machine 408 receiving no free spins when the jackpot is won on machine 402.

[0076] FIG. 10 shows machines 404, 406 and 408 awarding lotto tickets (e.g., lottery tickets, keno tickets, Lotto™ tickets, or other possible winning tickets, including those on sports events, pari-mutuel pools, horse races, dog races, and

the like) to random players or all players when a jackpot has been won on machine 402. These tickets may be played through the respective machines, or may have to be validated for winning events at a cashier or sports book window, or toher facility. If keno tickets, for example, the tickets may be automatically validated on the machine according to a present or past game, or the machine may print a ticket or hold an electronic ticket (assigned to the specific player's account) for a later event. The player can be notified if the ticket later becomes a winner by tracking the player's card. The winning numbers of the player's awarded numbers may be displayed in typical keno-type fashion, one-at-a-time, or the entire number display may be shown on the screen in a single video event.

[0077] FIG. 11 shows the random award of scratch tickets, either electronically or physically by distribution from the machines 402, 404, 406 and 408. The amount of winnings for the electronic scratch tickets awarded may be displayed immediately or with some dramatic hesitation as shown in award notices 460, 462 and 464. It is also possible that the random awards may also include the potential for the jackpot winning machine 402 to receive bonus awards, rather than only non-jackpot winning qualifying players. Basis for qualifying, as noted previously, can be on any selected basis, including, but not limited to continuing play on the linked machine, continuing maximum play on the linked machine, a win at the same time (preceeding of following the jackpot win) as the jackpot win, length of time on the machine, a rated player with card in the machine, and the like.

[0078] FIG. 12 is a flow chart that depicts one non-limiting method of play according to the present invention. Box 702 indicates that the system determines that a progressive jackpot win (or fixed jackpot win, such as a fixed \$25,000.00) has been won in the linked machines. Box 702 indicates that the system determines this players on the linked machines (network) that are eligible to participate in the bonus event. The various types of qualifying methods or tests have been described above. Box 706 indicates that the system then makes the bonus opportunity theoretically possible for every qualified player. The bonus is only theoretically possible because the selection of awards is random and there may be a fixed number of awards available, and that fixed number may be less than the total of all players linked on the system or qualified for the bonus. The number of awards available may be a fixed number, a number that is a whole integer based on a percentage of the total number of linked and/or qualified players, a number based on the total time (machine hours) played since the last jackpot was won, or any other convenient basis. For example, if the number based on the percentage of players playing is used, the format could be 40% of qualified players on the system when the jackpot is won. If there were 867 qualified players on the system, then 0.40x867 or 346.8 (rounded up or down to 347 or 346) players would receive bonus awards. The percentage may be anywhere from 1 to 100%, and the percentage could float along with the number of qualified players. Awards could also be randomly assigned to players so that a large bonus award was or was not given when there were few qualified players. For example, if there were 100 fixed awards, and there were only 70 players qualified on the system, then a maximum of 70 awards might be given out (randomly of course), but with the bonus awards excluding a major award (such as the

\$75,000.00 bonus). This can be done by an algorithm that determines a percentage of the fixed available prizes may be awarded based on system utilization. For example:

[0079] <100 Prizes available>

[0080] <?System Utilization>

[0081] <Greater than 120 qualified Players><All 100 prizes awarded randomly>

[0082] <Fewer than 120 but \geq than 100 Qualified Players><80 prizes awarded>

[0083] <Fewer than 100 but \geq 80 Qualified players><60 prizes awarded>

[0084] <Fewer than 80 but \geq 60 Qualified players><40 prizes awarded>

[0085] <Fewer than 60 but \geq 40 Qualified players><20 prizes awarded>

[0086] <Select less than all prizes randomly from lowest value 90 awards>

[0087] Box 708 indicates that bonus awards are provided randomly to at least some of all the qualified players. Random selection may be by randomly selecting players, randomly selecting from among available bonus awards, and then providing the randomly selected awards to the randomly selected players. Random selection may also be accomplished by first randomly selecting the awards and then randomly selecting the player to whom the award is to be randomly given. The value of the awards may also be random within fixed groups based on value that the casino and/or system has predetermined is a strategic and marketable amount.

[0088] Box 710 indicates that the system then actually credits the random bonus award to the randomly selected qualified players, for example, according to the various techniques described above, including but not limited to direct account crediting, ticket awards, electronic ticket awards and the like.

[0089] Box 712 indicates that the system then resets the progressive jackpot to a base amount, assuming that it is a progressive jackpot game in the linked system. An advantage to the present system is that if a fixed award event is used (e.g., a jackpot of \$100,000.00) and the amount of the potential randomly allocated bonus event is progressive, the system may well attract more players than if the system has only a progressive primary game. The jackpot may be progressive or not, and the randomly assigned bonus may be based upon a separately funded jackpot bonus event. For example, the jackpot may be a fixed amount and the bonus event total award may be based on a separately funded progressive pool from linked machines.

[0090] Although specific procedures, materials, and components have been described in the specification, the descriptions are intended to be exemplary of a generic practice of the invention and are not intended to be use as narrowing limits for practice of the invention.

What is Claimed is:

1. A method of playing a gaming system played by a plurality of players where a jackpot is awarded, the method comprising:

players playing an underlying wagering game in which wagers are made by players;

when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least one player, entering a special bonus event for at least all players presently playing the underlying wagering game; and

randomly awarding bonuses to some of the at least all players in addition to any awards the some of the at least all players may win during continued play of the underlying wagering game.

2. The method of claim 1 wherein the underlying game is a casino table game.

3. The method of claim 1 wherein the underlying game is played on a slot-type wagering apparatus.

4. The method of claim 3 wherein the slot-type wagering apparatus is a networked wagering apparatus.

5. The method of claim 4 wherein the jackpot is a progressive jackpot.

6. The method of claim 3 wherein the bonuses do not decrement the jackpot.

7. The method of claim 4 wherein the bonuses do not decrement the jackpot.

8. The method of claim 5 wherein the bonuses do not decrement the jackpot.

9. The method of claim 3 wherein bonuses are awarded to more than one but less than all players.

10. The method of claim 9 wherein the player who received the jackpot may not participate in play for bonus awards.

11. The method of claim 4 wherein bonuses are awarded to more than one but less than all players.

12. The method of claim 5 wherein bonuses are awarded to more than one but less than all players.

13. The method of claim 7 wherein bonuses are awarded to more than one but less than all players.

14. The method of claim 8 wherein bonuses are awarded to more than one but less than all players.

15. The method of claim 12 wherein the player who received the jackpot may not participate in play for bonus awards.

16. The method of claim 4 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

17. The method of claim 8 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

18. The method of claim 12 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

19. The method of claim 13 wherein the bonus is selected from the group consisting of immediate random bonus awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

20. The method of claim 16 wherein the bonus is selected from the group consisting of immediate random bonus

awards, immediate play bonus awards, mini-jackpot awards, free play awards, electronic game tickets, physical game tickets, and combinations thereof.

21. A method of playing a gaming system played by a plurality of players where a jackpot is awarded, the method comprising:

players playing an underlying wagering game in which wagers are made by players;

when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least

one player, entering a special bonus event for at least all players presently playing the underlying wagering game; and

randomly awarding bonuses to some of the at least all players in addition to any awards the some of the at least all players may win during continued play of the underlying wagering game, wherein the bonuses to some of the at least all players is based upon a progressive bonus jackpot.

21. The method of claim 21 wherein the jackpot is not a progressive jackpot.

* * * * *

EXHIBIT B



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,585	03/18/2004	Kathleen Nylund Jackson	247079-000299USPT	7261
70243	7590	03/17/2010		
NIXON PEABODY LLP 300 S. Riverside Plaza 16th Floor CHICAGO, IL 60606			EXAMINER HUI, KANG	
			ART UNIT 3715	PAPER NUMBER
			MAIL DATE 03/17/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/804,585

Applicant(s)

JACKSON, KATHLEEN NYLUND

Examiner

KANG HU

Art Unit

3715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 15-21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 15-21 and 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Present office action is in response to amendment filed 11/3/2009, claims 9, 11-14 and 22 are cancelled, claims 1-8, 10, 15-21 and 23-28 are currently pending in the application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8, 16-21, 23-26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Olsen (US 6,146,273).

Re claims 1 and 21, Olsen teaches a method of playing a gaming system played by a plurality of players where a jackpot is awarded, the method comprising:

players playing an underlying wagering game in which wagers are made by players (col 5, lines 1-2 and 16-22);

when an outcome occurs in the underlying wagering game that identifies that a jackpot is to be awarded to at least one of said players (col 7, lines 50-53), entering a special bonus event for all of said players presently playing the underlying wagering game (fig 4: 248 – start bonus mode; col 12, lines 20-25); the special bonus event providing a chance to be awarded bonus (col 8, lines 23-34);

randomly selecting bonuses to be awarded in the special bonus event (col 16, line 64 - col 17, line 27);

and randomly selecting more than one but less than all of said players to be awarded the randomly selected bonuses and excluding at least one player from being awarded any bonus (col 14, lines 8-10: random selector to provide the random selection of eligible gaming machines (and therefore eligible players) to award bonus jackpots; col 15, lines 45-60: first and second bonus jackpot; col 16, lines 24-30: never selected to receive a bonus), said randomly selected bonuses being in addition to any awards some of said players may win during continued play of the underlying wagering game (col 17, lines 46-61).

Re claims 2 and 23, the underlying game is a casino table game (col 5, lines 1-5).

Re claims 3 and 24, the underlying game is played on a slot-type wagering apparatus (col 5, lines 1-5).

Re claims 4 and 25, the slot-type wagering apparatus is a networked wagering apparatus (col 5, lines 1-5).

Re claim 5, the jackpot is a progressive jackpot (col 5, line 39-40).

Re claims 6-8 and 26, the bonuses do not decrement the jackpot (col 24, lines 40-45).

Re claims 16-20 and 28, the bonus is selected from a group consisting of random bonus awards (col 17, table 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen (US 6,146,273) in view of Luciano Jr. et al. (US 6,887,154 B1).

Re claims 10, 15, and 27, Olsen does not teach of excluding the player who received the jackpot from being randomly awarded a bonus from the special bonus events. Luciano teaches of excluding the player who received the jackpot from being randomly awarded a bonus from a special bonus event (Luciano, col 4, lines 40-50);

At the time of the invention was made, it would have been obvious matter of design choice to a person of ordinary skill in the art to exclude the player who received the jackpot from being randomly awarded a bonus from the special bonus event because applicant has not disclosed that excluding the player who received the jackpot from the special bonus provides an advantage, is being used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Olsen and applicant's invention, to perform equally well to include or exclude the person who has won the jackpot from being randomly awarded a bonus

from a special bonus event because both would still allow the casino to randomly award bonuses to players who are currently playing to keep the player's interest in the game.

Therefore, it would have been prima facie obvious to modify Olsen to exclude the player who has won the jackpot from being randomly awarded a bonus from a special bonus event because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Olsen.

Response to Arguments

5. Applicant's amendment filed on 11/3/2009, with respect to claims 1-8, 10, 15-21 and 23-28 in regards to USC 101 rejection have been fully considered and are persuasive. The rejection has been withdrawn.

6. Applicant's arguments filed 11/3/2009 in regards to the prior art rejection have been fully considered but they are not persuasive. The applicant asserts that at least claims 1 and 21 are not anticipated, the examiner respectfully disagree. The applicant asserts that Olsen does not teach of awarding bonus triggered by a jackpot awarded as specifically claimed. The examiner agrees with the applicant's analysis of the prior art, however the claim limitation as provided recites "identifies that a jackpot is to be awarded", nothing in the claim requires that an awarded jackpot triggers a bonus event. Olsen teaches of at least triggering of jackpot award to at least one of the player as recited in the claim. Therefore the argument is not persuasive.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KANG HU whose telephone number is (571)270-1344. The examiner can normally be reached on 8-5 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-262-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kathleen Mosser/
Primary Examiner, Art Unit 3715

/K. H./
Examiner, Art Unit 3715

EXHIBIT C



US006146273A

United States Patent

[19]

[11] **Patent Number:** 6,146,273**Olsen**[45] **Date of Patent:** *Nov. 14, 2000**[54] PROGRESSIVE JACKPOT GAMING SYSTEM WITH SECRET BONUS POOL****[75] Inventor:** Eric Burton Olsen, Henderson, Nev.**[73] Assignee:** Mikohn Gaming Corporation, Las Vegas, Nev.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: 09/052,047**[22] Filed:** Mar. 30, 1998**Related U.S. Application Data****[63] Continuation-in-part of application No. 08/957,076, Oct. 24, 1997.****[51] Int. Cl.⁷** A63F 9/24**[52] U.S. Cl.** 463/27**[58] Field of Search** 463/16, 17, 19, 463/22, 25, 26, 27, 28, 31**[56] References Cited****U.S. PATENT DOCUMENTS**

5,885,158	3/1999	Torango et al. .	
5,947,820	9/1999	Mozzo et al.	463/9
5,980,384	11/1999	Barrie	463/16
5,989,121	11/1999	Sakamoto	463/20
6,012,982	3/2000	Piechowiak et al.	463/16
6,033,307	3/2000	Vancura	463/20

FOREIGN PATENT DOCUMENTS

B-36472/95 5/1996 Australia .
2 151 054 7/1985 United Kingdom .

OTHER PUBLICATIONS

John Acres, Gaming Innovations Concept III, circa Mar. 1993, 18 pages.

Form SB-2 Registration Statement Under the Securities Act of 1933, Sep. 20, 1993, 51 pages—Acres Gaming.

PCT International Search Report, Mar. 15, 1999, 3 pages.

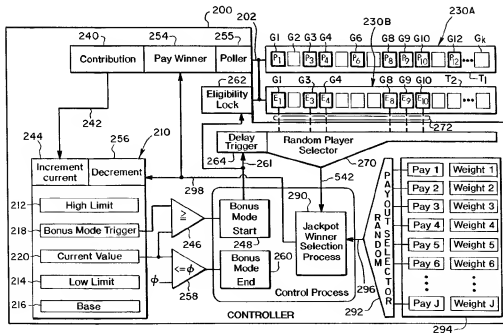
Primary Examiner—Valencia Martin-Wallace

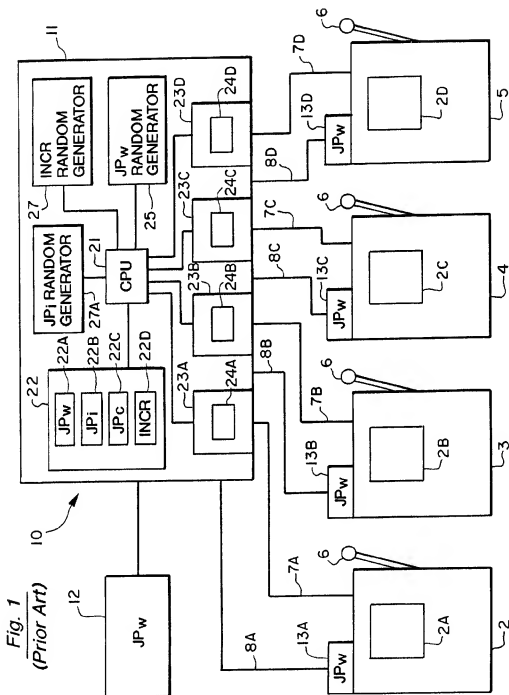
Assistant Examiner—John Paradiso

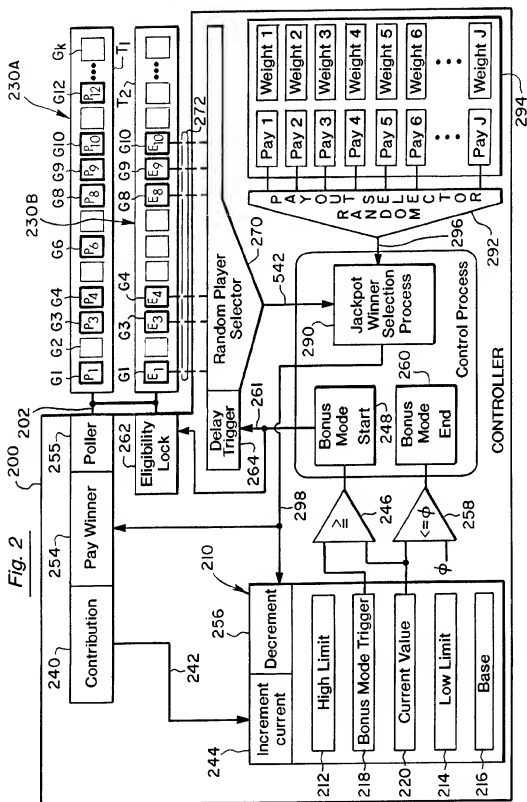
Attorney, Agent, or Firm—Dorr, Carlson, Sloan & Birney, P.C.

[57]**ABSTRACT**

A method of operating of controller-based progressive gaming system having a plurality of gaming machines wherein each gaming machine generates unit bet information indicative of a number of unit bets supplied to a machine for playing a game. The method comprises the steps of randomly selecting a bonus mode activation value between a high and low limit, providing a current value, providing a base value, incrementing the current value when the gaming machines are played so that the current value is incremented by a fixed amount of each unit bet received by each gaming machine. A bonus mode time period is entered when the incremented current value is equal to or exceeds the bonus value. Eligible machines are locked-in and random bonus jackpots are made during the bonus time period. Each bonus award decrements the current value by the amount of each award and the bonus mode time period is ended when the current value is less than or equal to the base value.

29 Claims, 16 Drawing Sheets





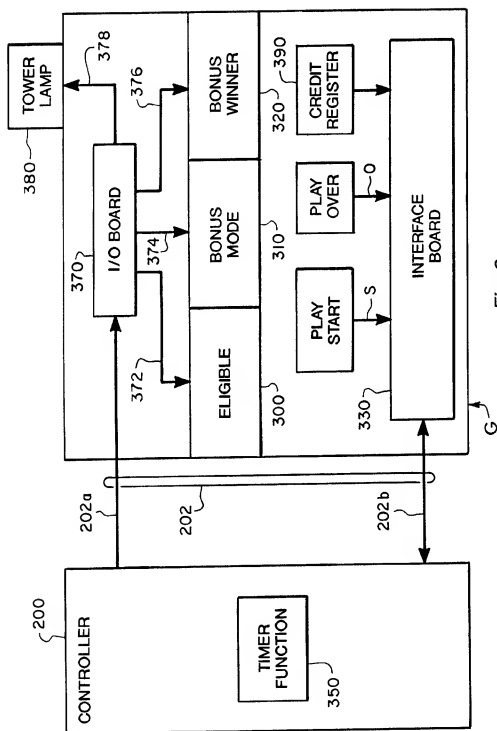
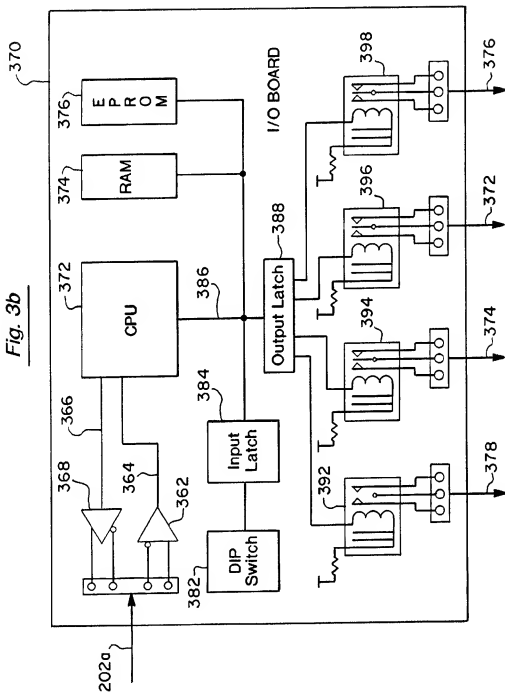


Fig. 3b



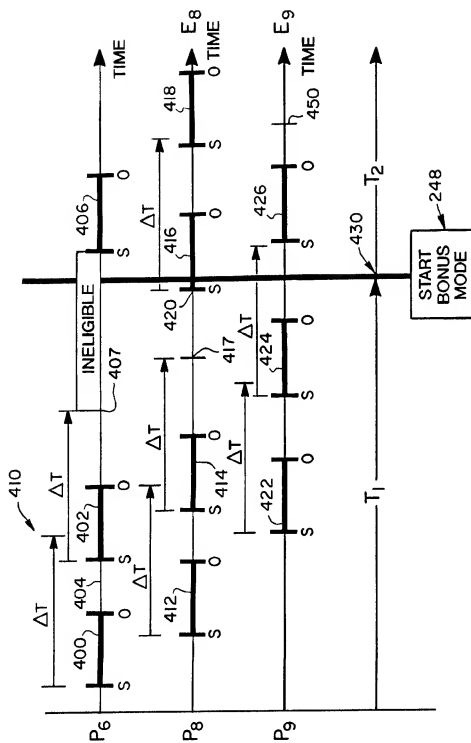


Fig. 4

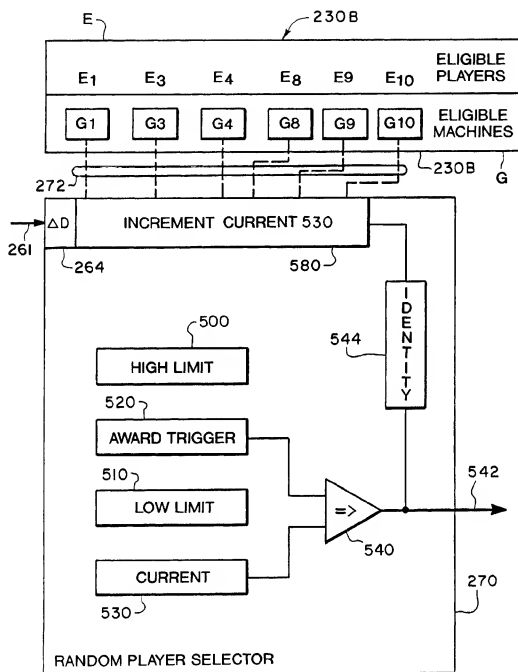
Fig. 5

Fig. 6

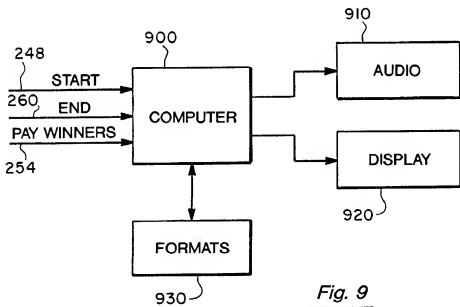
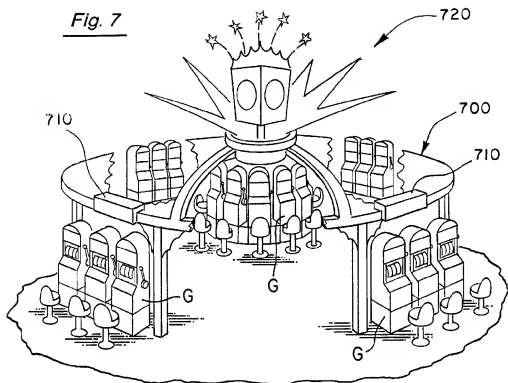


Fig. 9

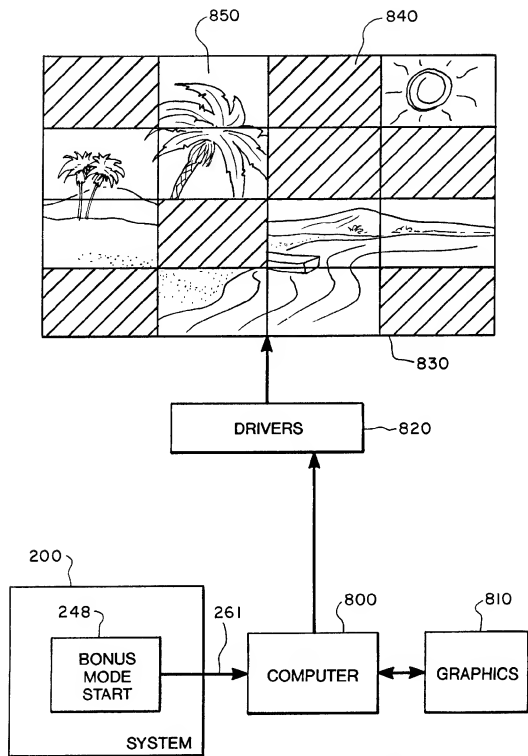
Fig. 8

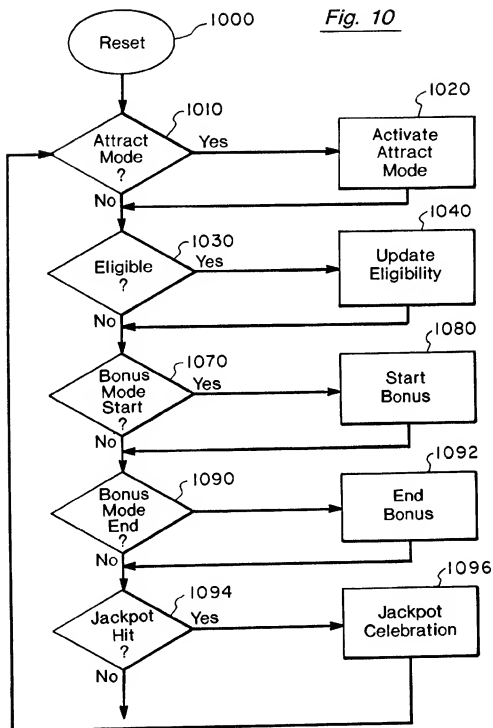
Fig. 10

Fig. 11

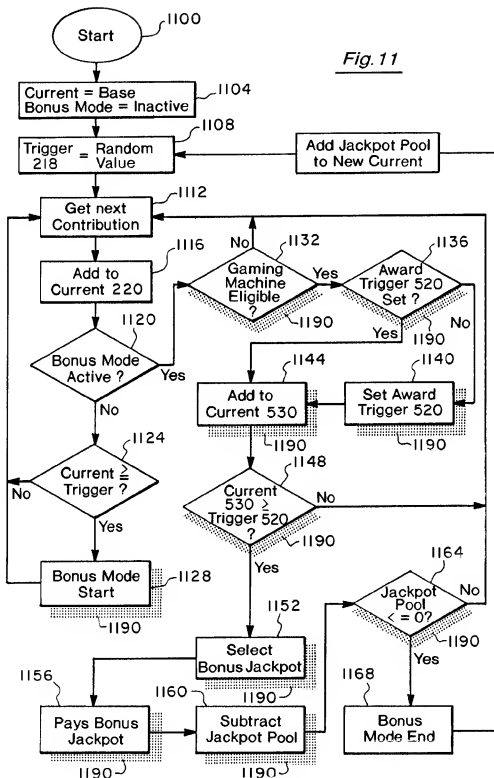
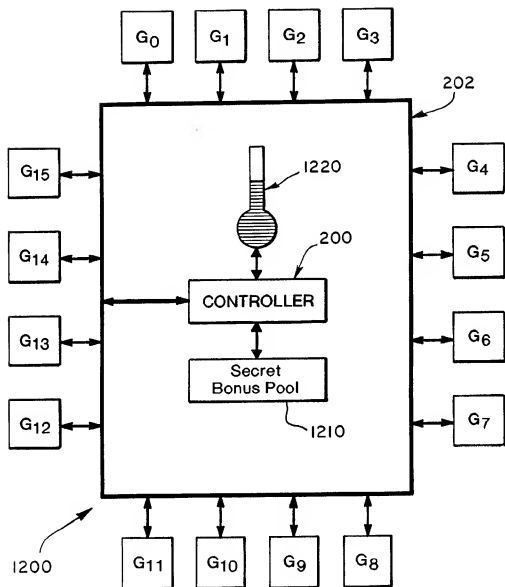


Fig. 12

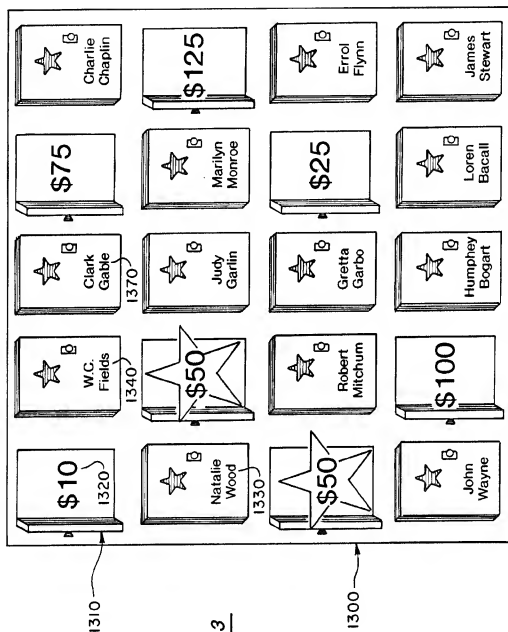


Fig. 13

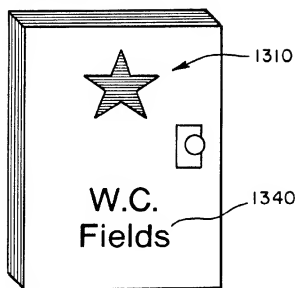


Fig. 14(a)

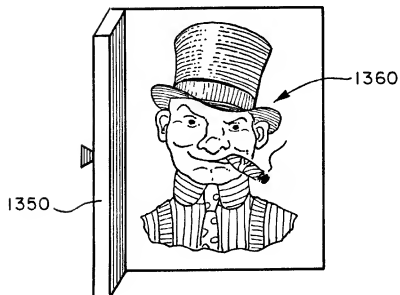
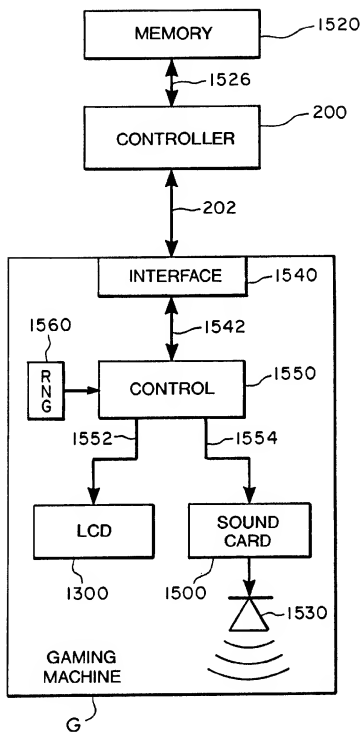


Fig. 14(b)

Fig. 15

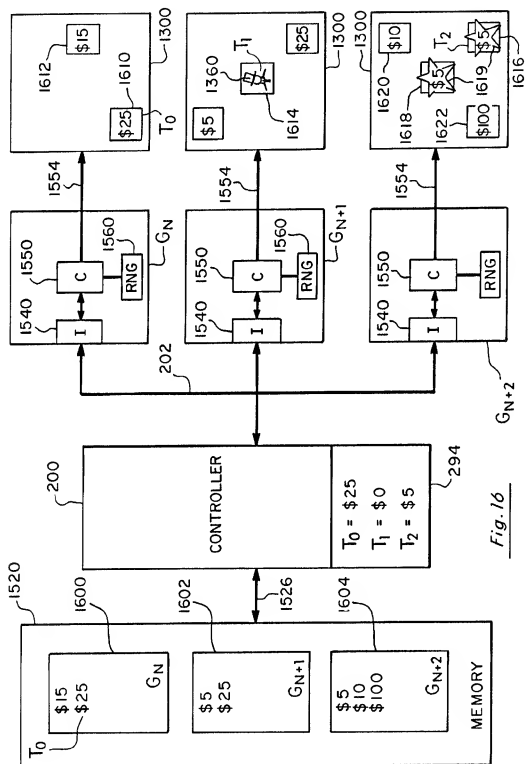


Fig. 16

1

PROGRESSIVE JACKPOT GAMING SYSTEM WITH SECRET BONUS POOL

RELATED INVENTIONS

This invention is a Continuation-in-Part of Ser. No. 08/957,076 filed Oct. 24, 1997 and entitled "Controller-Based Progressive Jackpot Gaming System."

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to gaming machines and, in particular, to controller-based progressive jackpot linked gaming systems.

2. Statement of the Problem

Gaming machines are well known and include a variety of games such as slot, poker, and keno. Gaming machines can also be programmed to play a variety of games. Players insert monetary amounts by inserting coin, token, paper currency, or magnetic card; pushing credit buttons; or other suitable entry to play one or more games on a particular gaming machine. Such monetary amounts are usually translated into a number of units of the lowest unit of currency receivable by the machine, referred to herein as the unit bet. Translation into unit bet is conventionally carried out by representing each unit bet as a single pulse so that the generation of P pulses would correspond to a currency entry equal to P unit bets. Thus, in a gaming machine whose unit bet equals one dollar, the entry of three "dollar unit bets" corresponds to P equals three, resulting in the generation of three pulses within the machine. The monetary value may also be digitized and sent as a digital signal. Such operation is well known in the art.

Upon entry of a monetary amount, the gaming machine examines the generated unit bet pulses and determines therefrom which games and/or awards the player qualifies for based upon an internal game in the machine and on an associated pay table located in the machine. The player is then normally required to take some action to institute playing of the game such as pushing a play button or pulling a lever arm. The player then plays the game according to the rules of the game. The player either wins the game or loses the game. If the player wins the game, the player is given the award established by the gaming machine for the particular game being played. This award varies considerably from type of game played to the type of winning combination in the rules of the game. Typically, the award is a return of monetary amounts equal to or in excess of the monetary amounts entered to play the game. Winning or losing the game completes the gaming cycle. The gaming machine then conditions itself so as to be able to again receive monetary amounts to begin another game cycle and the process repeats. Such individual stand-alone conventional gaming machines are found in numerous casinos throughout the world and are made by a number of different manufacturers.

In order to attract more players to such gaming machines, progressive gaming systems were developed. Progressive gaming systems permit the player to play individual gaming machines as discussed above. To add to the excitement of play, the individual gaming machines are linked together to allow players to compete for an additional common award or "progressive jackpot." The progressive jackpot award can amount to a substantial amount of money. Progressive gaming systems are also found in casinos throughout the world. In some environments, the progressive jackpot award

2

is an expensive vehicle, such as a motorcycle or sports car. In progressive gaming systems, a programmed controller is provided for linking the machines together. The controller receives the unit bets from the linked machines as well as machine identification information from each machine and supplies to the players, either through displays provided on their respective machines and/or a common overhead display, information as to the common progressive jackpot.

In one type of progressive system, the controller controls the progressive game during each progressive game cycle by first establishing a jackpot-win amount in a random manner between maximum and minimum jackpot values. The controller has an internal random number generator for making this random selection. The controller also establishes a base value which is used as an initial amount for a current progressive jackpot amount, which is the progressive jackpot amount reported by the controller to the machine displays and/or the overhead display and display to the players. The current jackpot amount is recalculated or incremented by the controller each time a game is played at each gaming machine. The controller does this by adding to the current progressive jackpot amount an increment value based on the number of unit bets entered at the individual gaming machines in the progressive gaming system multiplied by a fixed progressive increment rate per unit bet. This is a continuous process since players at different machines are inserting monetary amounts to start game play at different times.

To this end, each gaming machine, as above indicated, reports its unit bet information to the controller upon a player playing the gaming machine so that the current progressive jackpot value can be appropriately incremented. The gaming machine is also identified with conventional signaling to the controller with the bet information so that the controller knows which gaming machine resulted in the increment.

After each increment of the current progressive jackpot, the controller compares the new current jackpot value with the jackpot-win value, which it previously randomly established and stored. If the new value is less than a jackpot-win value, the controller merely updates the current jackpot value and communicates the updated value to the displays at the gaming machines and/or the overhead display. The controller then continues to monitor the unit bet information indicative of game play from the gaming machines and to increment the current progressive jackpot value based thereon.

When an increment to the current jackpot value causes the value to reach or become equal to the jackpot-win value, the controller determines that the jackpot has been won by the gaming machine, which resulted in the aforesaid increment. The controller communicates this to the winning gaming machine and the appropriate payment of the jackpot-win amount is made to the player. This suddenly surprises the player as it comes unexpectedly and adds excitement to the game.

After a jackpot has been won, the controller then institutes a new progressive game cycle in which it resets the progressive jackpot by randomly selecting, from values between the maximum and minimum jackpot values, a new jackpot-win value. The controller then also resets the current jackpot value to the base value and begins incrementing this value based on the fixed progressive increment. As before, this incrementing continues until the current jackpot value reaches the newly selected progressive jackpot-win value and the progressive jackpot is won again. The controller then

repeats the progressive game cycle based on continued game play, as described above. The above type of linked random jackpot controller-based systems have been sold by the assignee of the present invention under the trademark MYSTERY JACKPOT and, for example, is discussed in U.S. Pat. No. 5,280,909. The '909 patent specifically teaches that the jackpot payout need not be a fixed jackpot-win value and that the award could be issued based upon conditions at the machine and only paid when the next winning combination occurs at the machine. For example, the payout criteria might be to payout a jackpot equal to the award for the next winning combination established at the machine.

A need exists to improve upon the above progressive gaming system to attract players, to retain players at the gaming machine by extending play, to provide greater unpredictability and to add more excitement in playing the progressive gaming system.

A need exists to provide players with a feeling of group participation as they play a progressive game wherein players are competing against each other in a race for prizes.

A need exists to provide different base values for the start of each game that are random so as to add more unpredictability to the game.

A need further exists to randomly select players for awarding the jackpot so as to attract and retain more players at the game.

A need finally exists to randomly select awards from a weighted payout table so as to add more randomness to the game.

SUMMARY OF THE INVENTION

1. Solution to the Problem.

The present invention solves the above problem by providing improvements to the randomness of the controller-based linked random jackpot system. The improvement is designed to attract more players, to retain players at the gaming machines during extended play, to provide greater unpredictability and to add more excitement in playing the progressive gaming system. The game of the present invention incorporates group participation. When a bonus mode time period is entered eligible players are awarded jackpots of random value in rapid succession creating a frenzied atmosphere for the eligible players. The improved progressive system of the present invention adds more randomness in playing the game, provides jackpot awards of random value in a bonus mode time period of random length, and randomly selects winner machines during the bonus mode time period.

2. Summary.

A system and method of operating of a controller-based linked random jackpot system having a plurality of gaming machines wherein each gaming machine generates unit bet information indicative of a number of unit bets supplied to a gaming machine for playing a game. The method includes the steps of randomly selecting a bonus mode value between a high and low limit, providing a current value, and incrementing the current value when the gaming machines are played so that the current value is incremented by a fixed amount of each unit bet received by each gaming machine. The system enters a bonus mode time period when the incremented current value is equal to or exceeds the bonus mode activation value. The jackpot bonus pool is set equal to the bonus mode activation value. The system determines which gaming machines are eligible by locking in all gaming machines that have received a monetary amount within a predetermined time frame after play has started in response to entering the bonus mode time period. The

system randomly awards bonus jackpots to randomly chosen eligible gaming machines during the bonus time period. The system randomly selects which eligible gaming machines are to receive bonus jackpots and randomly selects the bonus jackpots from a weighted payout table. Each bonus jackpot decrements the pool by the amount of each jackpot and the bonus mode time period is ended when the jackpot bonus pool is less than or equal to zero.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is the Prior Art system block diagram from U.S. Pat. No. 5,280,909.

FIG. 2 is the functional block diagram of the linked random jackpot gaming system of the present invention incorporating bonus mode time period jackpots.

FIGS. 3a and 3b set forth the interfacc with a gaming machine.

FIG. 4 sets forth the timing, in an example of three players, for establishing player eligibility.

FIG. 5 sets forth the functional block diagram of the random selection of an eligible gaming machine during the bonus mode of the present invention.

FIG. 6 sets forth the timing among six gaming machines, in an example, of determining which eligible gaming machine receives a bonus award.

FIG. 7 sets forth a second operating environment embodiment incorporating the system of the present invention implemented in a circular frame with audio, visual and graphics displays.

FIG. 8 sets forth an embodiment with the system of the present invention driving a jigsaw puzzle.

FIG. 9 sets forth a block diagram of the system of the present invention interacting with an audiovisual display system.

FIG. 10 sets forth a flow chart for the overall operation of the system of the present invention.

FIG. 11 sets forth the flow chart for entering the bonus mode and awarding bonus jackpots.

FIG. 12 is a system block diagram of the bonus game of the present invention.

FIG. 13 sets forth an illustration of playing the bonus game of FIG. 12.

FIGS. 14a and 14b illustrate opening a single door to show the image of a person.

FIG. 15 is a block diagram of the bonus game of the present invention as shown in FIG. 12.

FIG. 16 is a system block diagram of the bonus game shown in FIG. 15.

DETAILED DESCRIPTION OF THE INVENTION

1. Prior Art.

FIG. 1 sets forth a prior art linked random jackpot system from U.S. Pat. No. 5,280,909. The following is an adaptation of the teachings of the '909 patent. However, it is to be understood that any conventional progressive controller could be adapted to the teachings of the present invention and the preferred embodiment of the present invention uses the SUPER or SUPREME controller available from Mikohn Gaming Corporation, 1045 Palms Airport Drive, Las Vegas, Nev. 89119.

The present invention is not limited to the type of controller, or type of gaming machine or the type of communication (media), as the invention is functionally

described later. Any type of gaming machine that receives bets in order to play a game at the machine is contemplated to be used under the teachings of the present invention including devices such as slots, video games of all types, live card games with tables interfacing with electronic equipment, internet and/or networked games, etc.

FIG. 1 shows a plurality of conventional gaming machines 2, 3, 4, and 5, which are adapted for use with a conventional progressive gaming system. Each of the machines is a reel type slot gaming machine having reels 2A, 2B, 2C and 2D, respectively, and the same unit bet, such as \$0.25. It is to be expressly understood that the unit bets and/or monetary value can be in any form to activate a gaming machine such as, but not limited to: coins in, credit play, paper money in, cards in, tickets in, values downloaded over a network, etc.

In normal use, a number of unit bets are inserted into a gaming machine and, depending upon the number inserted, the player plays for one or more awards or payouts. These awards or payouts depend upon certain winning combinations being displayed by the respective reels of the gaming machine when the game is played and as determined by an internal pay table.

Each unit bet applied to a gaming machine is converted into an electrical pulse or signal to signify that the unit bet has been applied. The gaming machine then knows by the number of pulses generated which awards or payouts the player is playing for. In many conventional controllers the unit bet information is serially digitized.

Initiation of a game cycle on each gaming machine begins when the player pulls the machine handle 6, causing the respective reels to spin and stop at certain combinations which are displayed to the player. How a game cycle on a gaming machine is initiated is immaterial to the teachings of the present invention. Game cycles can be started by pulling a handle, pushing a button, playing a hand, automatic start, etc. If the combinations developed are those for which an award or payout is to be made, the gaming machine provides the payout, which is usually some multiple of the unit bet.

In order to stimulate play on the gaming machines 2-5, a progressive jackpot system 10 is utilized. The prior art progressive system of FIG. 1 enables the players playing on gaming machines 2-5 to compete for an additional jackpot which is reached as a result of game play at the machines, but which is not won based upon winning at the machines. As shown, the system 10 includes a programmed controller 11 which links gaming machines 2-5 and which establishes and controls the progressive jackpot. The prior art system also includes a common display 12, as well as individual displays or meters 13A-13D, located at the gaming machines, all of which display the same jackpot information received from the controller 11 on lines 8A-8D, respectively.

In the '909 patent, the controller 11 includes a central processing unit (CPU) 21, a memory 22 and communication interfaces 23A-23D, which include storage buffers, or registers 24A-24D. The latter interfaces receive and transmit information from and to lines 7A-7D, which are connected to the gaming machines 2-5. The lines 7A-7D and corresponding interfaces 23A-23D serve as identification to the controller 11 that the information being received is attributable to a particular gaming machine.

The controller 11 also includes a jackpot-win value generator 25, which establishes the jackpot-win value, JP_{win} , for the jackpot of the progressive system. In the '909 patent, the generator 25 is a random number generator, which randomly establishes in standard fashion the value JP_{win} , from between maximum and minimum jackpot values JP_{max} and JP_{min} .

The jackpot-win value JP_{win} is stored in a register 22A of the memory 22 for use by the controller 11 during game play on the machines to establish whether the progressive jackpot has been won. Also stored by the controller 11 in registers 22B, 22C and 22D of the memory 22 is a base or initial jackpot value, JP_b , a current jackpot value, JP_c , and an increment per unit bet value, INCR, all of which are also used in determining whether the progressive jackpot has been won. At the start of each progressive game cycle, the value of JP_c is set to JP_b .

As fully discussed in the '909 patent, the controller 11 increments JP_c with contributions from each machine 2-5 as monetary values are inserted. When $JP_c \geq JP_{win}$, a win exists and the particular gaming machine whose incremental contribution caused the win is identified as the winner and wins the jackpot.

The above discussion closely parallels the prior art controller and the operation of the progressive game discussed in the '909 patent. While the present invention represents an enhancement on the '909 system, it is to be expressly understood that the controller of FIG. 1 is discussed by way of example. As mentioned, any conventionally available progressive controller could be adapted under the teachings that follow.

2. Overview of Present Invention.

The present invention improves upon the prior art system of FIG. 1. In FIG. 2, the functional operation of the present invention, which can be implemented in a conventional controller 200, network 202, and gaming machine G configuration, is set forth.

The controller 200 of the present invention provides three areas of randomness that are not found in the '909 patent. First, a more random game start is provided. The bonus mode trigger function 210 of the present invention is similar in operation to the operation of memory 22, CPU 21, and JP_b random generator 25 in the '909 patent. However, in the bonus mode trigger function 210, the initial value of the current value 220 at the start of each new game cycle is indeterminate. This is in contrast to '909 approach wherein JP_b was set equal to a base value. Hence, an additional element of randomness is injected in the system of the present invention since the initial current value 220 is unknown and indeterminate from game to game. Only on system start-up is a base used as in the '909 patent. Second, a number of randomly selected eligible machines are awarded bonus jackpots for an indeterminate length of time. Only eligible machines are entitled to receive bonus jackpots during this bonus award time period and those eligible machines are randomly selected by random player selector process 270. Third, the random award selector process 292 awards bonus jackpots of random value based upon a weighted payout table 294 located in the controller. Each of these elements of randomness will be discussed hereinafter.

3. Random Start.

In FIG. 2, a high limit 212, a low limit 214, as well as a base value 216 are provided in function 210. A randomly chosen bonus mode activation value or trigger 218 is also provided. The current value is shown as 220. The high limit 212 and the low limit 214 are set to any suitable value by the operator of the system. The base is preferably set to zero or any suitable amount also by the operator. For each bonus mode game cycle of the present invention, a new bonus mode activation value 218 is randomly chosen which is similar to the teachings of the '909 patent. The current value 220 is then incremented in a fashion described above for the '909 patent when each gaming machine is played. Functions 212, 214, 216, 218, and 220 can be either software based or

actual hardware registers. In the preferred embodiment, the controller 200 is programmed and these functions exist in associated memory.

In FIG. 2, an island 230 of gaming machines G is provided. In the preferred embodiment, these gaming machines G are referred to as G1, G2, . . . Gk. Any suitable number of gaming machines G could be used under the teachings of the present invention. In the preferred embodiment, the gaming machines are generally arranged in concentric circles where k is typically 40 or any suitable number. As shown in FIG. 2, and by way of example, players P are playing gaming machines G1, G3, G4, G6, G8, G9, G10, and G12. It is to be expressly understood that while this example shows individual players playing individual gaming machines, that it is common for a single player to play more than one gaming machine G. The remaining gaming machines (i.e., G2, G5, G7, G11 and Gk) are not being played by players in this example.

Throughout this description, an ongoing example involving players P1, P3, P4, P6, P8, P9, P10, and P12 will be used with respect to the above configuration of players and gaming machines. The purpose of this example is to illustrate the operation of the present invention. It is not meant to limit the teachings contained herein to the specific configuration shown.

Each gaming machine G has an interface card, not shown, which communicates with the controller 200 over network 202. As illustrated in FIG. 2, contributions are collected, such as is taught by the '909 patent (and is otherwise conventional) by function 240 from each gaming machine G that is being played by a player P. In other words, a fixed increment rate from the monetary value inserted by a player P into a gaming machine G is collected and is used, as is shown by line 242, to increment 244 the current value 220. This increment function 244 causes the current value 220 to increase. Hence, as players P insert monetary value into the gaming machines G, a fixed increment rate is collected 240 from each played machine G and is used to increment 244 the current value 220. It is to be expressly understood that the term "fixed increment rate" could be any suitable "amount" or "percentage" of the unit bet or of the monetary value. Furthermore, the teachings of the present invention are not to be limited to a "fixed" contribution since it is possible that a "variable" increment rate could be used based upon the amount of the monetary value. Finally, it is also possible that players could separately bet in order to participate in the game of the present invention at each gaming machine and that the "increment rate" could be based on such separate side bets.

When the controller 200 determines that the current value 220 equals or exceeds 246 the bonus mode activation trigger 218, the controller 200 starts 248 the "bonus mode time period" of the present invention. The value of the bonus mode trigger 218 is randomly selected by a random number generator, not shown, in the controller 200 to be an integer value between the high 212 and low 214 limits. This prevents anyone, even casino personnel, from having the ability to know exactly when the bonus mode starts 246. The start 248 of the "bonus mode time period" is announced with audio and visual display fanfare as will be explained later.

The contribution 240 collected from the particular gaming machine G causing the current value 220 to increment 244 to equal (or be greater than) 246 guarantees eligibility of that particular gaming machine and causes the bonus mode to start 248.

This is an important feature of the present invention. A single player playing his or her gaming machine upon

insertion of monetary value into that machine will have a contribution 240 collected from it which will increment 244 the current value 220 to equal or exceed 246 the bonus mode activation trigger value 218 to start 248 the bonus mode time period. The timing of this is unexpected and comes as a surprise to all eligible players playing gaming machines G when they witness the audio and visual announcement. Hence, the bonus mode time period of the present invention randomly starts in the fashion described above. The value of the jackpot pool is set to equal the bonus mode trigger value 218.

The randomness of this start is even greater than that taught in the '909 patent. The initial value for the current value 220 of each game cycle is not set to a fixed base value 216, but is set to a value indeterminate to any player and to a value which varies from game cycle to game cycle as discussed next. Upon system start-up, the current value is set to the base value 216. The base value may also be a seed value, if desired by the operator, in which case it would be added to the current value. As will be more fully discussed, the jackpots awarded are always fully funded, as game cycles are played, even though for a particular game, the current value 220 may start negative.

Bonus jackpots are made to one or a number of eligible machines during the bonus mode time period. Each bonus jackpot has a value 298 which is paid 254 to a random winning eligible gaming machine. Each jackpot paid 254 causes the current value 220 to decrement 256. When the current value 220 is decremented 256 to be equal to or less than 258 zero from successive bonus jackpots 298 paid 254 to random eligible winning machines, the controller 200 ends 260 the bonus mode time period. It should be understood that a randomly generated turn-off value other than zero could also be used under the teachings of the present invention.

Under the teachings of the present invention, at the start 248 of each bonus mode game cycle, the system randomly chooses a bonus mode activation trigger 218 between the high 212 and low 214 limits according to any of a number of conventional random number generating programs based in controller 200. Whatever the current value 220 was from the prior bonus mode game cycle is used as the starting current value 220 in the current bonus mode game cycle and is continually incremented 244 by collected contributions 240 from gaming machines G in the new gaming cycle. These incremental contributions cause the current value 220 to equal 246 the bonus mode activation trigger value 218 and the controller 200 starts 248 a new bonus mode time period. The jackpot pool is set equal to the random bonus mode trigger value. During this new bonus mode time period, bonus jackpots 298 are again awarded 254 to eligible machines and each award causes the current value 220 to decrement 256 until it equals or is less than 258 zero in which case the new bonus mode time period ends 260.

The start 248 of the bonus mode looks in the jackpot pool for the entire bonus mode. This jackpot pool is equal to the value of the bonus mode trigger 218. In the preferred operation of the '909 patent, this entire value would have been given to the machine G whose contribution caused the trigger 246 to occur. Under the teachings of the present invention, this trigger value provides the value for a jackpot pool from which the jackpots 298 are deducted 256. Any contributions 240 after the start 248 occurs in the preferred embodiment, are not added to the jackpot pool. If such contributions were allowed, then conceivably one eligible machine could play indefinitely from the pool being funded by the other non-eligible players. The additional contributions go to the new current amount.

In the preferred embodiment, the current value 220 at the end 260 of the prior game cycle of the present invention becomes the basis for the current value 220 of the next game cycle. By setting the prior current value to the next current value this provides a degree of randomness and uncertainty since it prevents players from watching a number of game cycles of the present invention in order to predict when to start playing games so as to enhance their likelihood of winning. The current value 220 at the beginning of a game cycle, corresponding to the current value 220 of the prior game cycle, is unknown and different each time. This will be more thoroughly explained later. This process also guarantees that bonus jackpots are fully financed and never cause the system to operate in the red.

4. Locking-In Eligible Gaming Machines.

In FIG. 2, the player island 230 is represented functionally as two separate configurations, in time (i.e., times T_1 and T_2) based upon player eligibility. Island 230A shows the configuration of all players P playing gaming machines G at a first time, T_1 , just prior to the start 248 of the bonus mode time period and island 230B shows the configuration of only the eligible players E playing gaming machines G at a second time, T_2 , corresponding to the start 248 of the bonus mode time period. Not all players P playing the conventional game at the gaming machines G become eligible players E. In the example shown in FIG. 2, players P6 and P12 do not become eligible players, at time T_2 , and their gaming machines G6 and G12 are ineligible. Whether a player is eligible to play the bonus game or not depends on the controller locking in 262 eligible machines G so as to participate in the controller-based bonus mode game of the present invention. It is to be expressly understood that the locked-out (or ineligible) machines G could still be conventionally played. In FIG. 2, the example shows only machines G1, G3, G4, G8, G9, and G10 to be eligible and locked in 262 at time T_2 .

In FIG. 3a, a conventional gaming machine G is modified to have three indicators 300, 310 and 320. Indicator 300 conveys an eligibility message to a player, indicator 310 conveys when the bonus mode time period is activated and indicator 320 conveys a bonus winner message when an eligible machine receives a bonus award. It is to be expressly understood that indicators 300, 310 and 320 could be of any type such as visual displays, audible indicators, or a combination of both which could be incorporated into a machine, on a machine, or near a machine as a single display or as multiple displays. A single display could be used such as a digital display to exhibit all three indicators rather than having separate displays. In the preferred embodiment, backlit slot glass is used. The type of indication is immaterial to the teachings of the present invention.

The messages conveyed by indicators 300, 310, and 320 are important. It is important that an eligible player E be continually aware of eligibility status with indicator 300. It is also important that an eligible player E be immediately informed of when a bonus mode time period is started 248 (and ended 260) with indicator 310 and to be immediately informed when he or she receives a bonus award 254 with indicator 320. These indicators 300, 310, and 320 are oriented to be in a position such that the eligible player can easily receive the desired message. This may be accomplished by turning lights on, flashing lights, sounding alarms, etc.

Within each gaming machine G are conventional signals indicating start of play S in the gaming machine and a play over signal O when the game being played in a machine is over (and whether the player has won or lost the game).

These signals are conventionally delivered over a network 202b to the controller 200 of the present invention.

Under the teachings of the present invention, a timer function 350 in controller 200 (which can be computer generated) receives the play start signal S from the interface board 330 over network 202b. The timer function 350 continually determines player eligibility and activates indicator 300 as a player starts S play at a gaming machine and for a AT time period thereafter. FIG. 4 is an illustration of several game play sequences corresponding to the players P at machines G illustrated in FIG. 2. The timer 350 could also be located at the I/O board 370 to control eligibility.

In FIG. 4, the determination of player eligibility is illustrated with respect to FIG. 2 for the on-going example. Players P6, P8 and P9 of FIG. 2 have their gaming activity at gaming machines G6, G8, and G9, respectively shown. Player P6 sitting at game G6 during time interval T_1 (i.e., configuration 230A) plays two games 400 and 402. The start S of each game is shown as well as when the game is over O. Between game plays 400 and 402 is an interval time 404 during which player P6 inserts a monetary amount in the form of unit bets. The time period 404 is variable depending on the desires of the player. It is this variability that is important under the teachings of the present invention. Player P6 can then play the game (for example activating handle 6 in the '909 patent).

It is to be understood that under the teachings of the present invention, the controller 200 determines the eligibility of the gaming machine by continually sensing a predetermined time frame ΔT after game play has started S. The game play referred to herein is the game at the gaming machine such as, for example, slots.

As shown in FIG. 3a, when a gaming machine G generates the play start signal S, the interface board 330 in a conventional manner (such as when polled) delivers this to the controller. A timer function 350 in controller 200 is activated which causes a predetermined time period ΔT to time out after game start S. This ΔT time period is predetermined and is fixed, although the amount of time can be set by the operator of the controller 200 of the present invention to any predetermined value. In the preferred embodiment, this time period is typically in the range of 8-15 seconds. Typically, a reel-type slot game is played in four seconds. Referring back to FIG. 3a, the game start signal S from the gaming machine activates the timer function 350. Controller 200 over network 202a causes indicator 300 to be activated over line 372 thereby informing the player that the player is eligible for the bonus mode. The eligibility indicator 300 continues to stay on for a ΔT time period after the game start signal S is detected. During the ΔT time period 410, as shown in the example of FIG. 4, the start signal S is detected by the controller 200 from player P6 as the player P6 starts playing game 402 which restarts the ΔT time period. Player P6 then completes game 402. However, as shown in FIG. 4, the player P6 does not start S the next game 406 within the prior ΔT time period so that the start signal S for game 406 occurs after the prior ΔT time period expires. Hence, at time 407, the eligibility indicator 300 is deactivated by the controller 200 and player P6 is no longer eligible. Eligibility for player P6 occurs only when the controller 200 receives the start signal S for the next game 406 within the prior ΔT time period. This did not occur for player P6. As shown in FIG. 4, player P6 has a period of time (i.e., between time 407 and the start S of game 406) in which the player P6 is ineligible to play in the bonus mode of the present invention.

Player P8 is shown in FIG. 4 playing four games, 412, 414, 416, and 418 on gaming machine G8. Player P8

remains eligible during games 412 and 414 since player P8 starts S game 414 within the predetermined AT time period after the prior game 412 is started S. However, as shown in FIG. 4, player P8 fails to start S game 416 within the AT time frame after game 414 is started S. Hence, at time 417, the eligible indicator 300 for gaming machine G8 is deactivated by the controller 200. This immediately informs player P8 that he or she is no longer eligible to play in the bonus mode time period should it occur. Player P8 starts S game 416 at time 420. This restarts the AT time period. At time 420, the eligible indicator 300 is reactivated and the player is again eligible for the bonus mode. Note that player P8 starts S game 416 at time 420. Under this example, it is the entry of the monetary value by player P8 into gaming machine G8 for game 416 that causes the current value 220 to be equal 246 to the bonus mode activation trigger 218. The receipt of the monetary value bet by player P8 at gaming machine G8 is sensed by the contribution function 240 of the controller 200 and the controller 200 increments 244 the current value 220 which now causes the start 248 of the bonus mode time period at time 430. The bonus mode start 248 function causes an eligibility lock 262 to occur which locks in those machines that are eligible. An eligible machine is a machine that is within the AT time period at the time of bonus mode start 248. When the bonus mode starts 248, the controller 200 determines eligibility and those machines that have their eligible indicators 300 activated are eligible when the bonus mode time period is started 248. Player P6, in this example, is not eligible at time 430 and is locked-out of the bonus mode play although he or she can still play a number of conventional games on machine G6 such as game 406.

One of the features of the present invention is to announce at time 430 to persons in the area of the island 230 and to all players at all gaming machines contained therein that the bonus mode has been entered. This is usually done by audio sounds such as music, visual indicators such as flashing lights or the lighting of lights and the like. The purpose of such celebration (visually and audibly) is to attract other persons in the vicinity of the island 230 to witness the distribution of numerous bonus jackpots during the bonus mode time period. This will be discussed later.

Each player P at a gaming machine G during time T₁ always knows whether or not they are eligible since their eligible indicator 300 is activated. With respect to the example in FIG. 4, player P6 knows that she has lost eligibility since her eligible indicator 300 is not activated at time 407 well prior to time 430. Even though player P6 starts S game 406 by entering a monetary value, her gaming machine G6 will be locked out from the bonus mode by function 262. This is an important feature of the present invention since it is a goal of the present invention to reward eligible players who promptly continue play of their gaming machines within the predetermined AT time frame 410 after each game is started S. Eligibility is important since it allows those players who promptly play their machines to be entitled to the bonus jackpots during the bonus mode time period. Eligibility is also important to stop slot cheats. Hence, player P6 and with reference back to FIG. 2, player P12 at time 430 are rendered ineligible at time T₁ even though they can continue to play the conventional game on their machines. The other unplayed gaming machines are also locked out such as G5 and G7. Players can sit and commence play at those machines during the bonus mode time period, but are not eligible for the bonus jackpots. The eligible players at time T₁ in FIG. 2 are termed E1, E3, E4, E8, E9 and E10 and only their respective gaming machines G1, G3, G4, G8, G9, and G10 are allowed to participate in

the bonus mode time period. All of the other gaming machines can be conventionally played in the configuration 230 but are locked-out and cannot participate for bonus jackpots.

Note that player P8 is the player who upon insertion of the monetary amount into his or her gaming machine G8 caused the controller 200 to start 248 the bonus mode. However, in the preferred embodiment, player P8 does not receive an award or prize or other types of jackpot for causing this event to happen. In the preferred embodiment, all eligible players are locked in for the duration of the bonus mode.

Player P9 plays gaming machine G9 as shown in FIG. 4. Player P9 starts S her first game 422 and then starts S the play of her second game 424 before the expiration of the AT time period. The eligible indicator 300 for machine G9 remains activated for the AT time period for the second game 424 even though player P9 has not started S game 426 until after time 430. Player P9 becomes an eligible player and her gaming machine G9 is locked-in.

To summarize at time 430, gaming machine G6 is not eligible and is locked-out whereas machines G8 and G9 are eligible and locked-in. During the bonus mode time period T₂, all eligible machines in the preferred embodiment remain eligible whether or not a player starts the next game within a predetermined time frame AT after the prior game. Hence, player P9 could walk away from gaming machine G9 at time 450. Another person can sit down at eligible machine G9 and continue to play in the bonus mode time period. During the bonus mode time period (from start 248 to end 260), both indicators 300 and 310 are activated. Other embodiments of the present invention could require eligibility to be maintained during the bonus time period. For example, the AT time periods could be maintained so that if a player did not start S a game within the AT time, the machine would lose the right to continued participation in the bonus mode. Or, in another example, the eligible players could be required to always place maximum bets and should other than a maximum bet be placed the right to continued participation in the bonus mode would be lost. Or, the aforesaid examples could be combined.

Once the bonus mode time period has been started 248 at time 430, all eligible machines are locked in and only those machines are entitled to bonus jackpots during the bonus mode time period. Both eligible and ineligible gaming machines can be played conventionally. It is to be expressly understood that this is a preferred embodiment of using AT to determine eligibility at bonus mode start 248 and that variations to determining eligibility could take place. Eligibility can be based upon other conventional conditions at the gaming machine such as the insertion of a player tracking card, in which case eligibility is lost when the card is removed. Hence, at bonus mode start all machines having player tracking cards inserted are eligible. Eligibility could also be determined by requiring all players bet maximum bets during the AT time frame.

In summary, gaming machine eligibility (therefore, player eligibility) is determined by the controller 200 of the present invention by locking-in only those gaming machines that are currently within a predetermined time period AT after a game is started S. This determination could also be made by locking out those gaming machines that are ineligible.

It is to be expressly understood that the preferred embodiment provides a AT time period commencing from the start S of a game. However, the AT time period could also be measured starting from when a game is over O. In which case, eligibility is determined from sensing O to the end of the AT time period. Furthermore, the timing function could

be located in the interface board 330 at each gaming machine G rather than in the controller 200.

In FIG. 2, the eligible players E operating eligible machines in time T₂ can continue to play both the conventional game at the gaming machines and also participate in the bonus mode time period. The remaining players such as P6 and P12, who are not eligible, can still play the conventional game and players can operate the other ineligible machines (e.g., G2, G5, G7, and G11) in conventional fashion.

FIG. 3b, sets forth the details of the I/O board 370, which is interconnected over network 202a to the controller 200. In the preferred embodiment, the network connection 202a is a serial interface over which serial digital signals are delivered from the controller 200 to the I/O board 370 through buffer 362 and over lines 364 to an internal CPU 372. The CPU 372 can communicate over lines 366 and through buffer 368 with controller 200. Communication protocols are numerous and well known in the art for communications between controllers 200 and on board computers 372. On the I/O board 370 is also a random access memory (RAM) 374 and erasable programmable read only memory (EPROM) 376 which are also conventional in the art for storing permanent and temporary programming information to control the operation of the I/O card 370 and to effectuate communication between the controller 200 and the CPU 372.

Also on board 370 is a DIP switch 382, which is interconnected to an input latch 384 and communicates with the CPU 372 over bus 386. The CPU also communicates over the bus 386 with the RAM 374 and the EPROM 376 as well as an output latch 388. The purpose of the DIP switch 382 is to provide a unique code to identify the machine G at which the I/O board 370 is located. The CPU 372 provides this unique machine code in its communications to and from the controller 200.

The output latch 388 is interconnected to relays 392, 394, 396 and 398 which are utilized to drive respectively, tower lamp 380 over lines 378, the bonus mode indicator 310 over lines 374, the eligible indicator 300 over lines 372, and the bonus winner indicator 320 over lines 376. The above represents only a preferred embodiment and, it is to be expressly understood, that many other equivalent circuit approaches could be utilized to identify the gaming machine and to activate the indicators 300, 310, 320 and 380.

5. Random Selection of Eligible Gaming Machines.

With reference back to FIG. 2, when the bonus mode start 248 occurs the controller 200 issues a bonus mode signal 261 to the eligibility lock function 262 which locks-in the eligible gaming machines. In addition, signal 261 activates a delay trigger function 264 to delay the award of bonus awards by a time period. In the preferred embodiment, this is a fixed time delay. In other words, the purpose of function 264 is to delay the award of any bonus awards by the controller 200 for a short predetermined period of time after the system locks-in the eligible machines and activates the bonus mode indicators 310. The controller 200 of the present invention then determines, on a random basis, which eligible machines are to receive bonus jackpots.

The controller of the present invention 200 must now randomly choose which of the eligible machines will receive the bonus jackpots during the bonus mode time period. In essence, the bonus jackpots are a series of miniature random controller-based jackpots. In the on-going example, an island 230 of FIG. 2 has K machines with eight players playing eight gaming machines. As discussed above, six machines of the eight are eligible (i.e., G1, G3, G4, G8, G9,

and G10) to play in the bonus mode at the start 248 of the bonus mode (time 430 in FIG. 4) which is shown as configuration 230B. The system 200 of the present invention uses the random player selector 270 to pick different ones of the six eligible machines on a random time basis for each random bonus award. The controller 200 as shown by dotted lines 272 knows the identity of all eligible machines.

FIG. 5 illustrates the functional operation of the random selector 270 in FIG. 2. The purpose of the random selector 270 is to provide the random selection of eligible gaming machines (and therefore eligible players) to award bonus jackpots.

In FIG. 5, a high limit value 500 and a low limit value 510 are provided. Again, these functions can be implemented in software, hardware, or both. In the preferred embodiment, the high limit value 500 is equal to:

$$J \times N \times \text{max coin setting.}$$

The low limit value 510 is equal to:

$$K \times N \times \text{max coin setting.}$$

The number of eligible machines corresponds to N. In the preferred embodiment J=3 and K=2, although any suitable integer could be used. The "max coin setting" corresponds to the maximum coin setting of the gaming machines G. For the example of FIG. 2, a common dollar reel-type slot machine has three dollar coins for the maximum coin bet. Hence, in the example the number of eligible machines is 6 (i.e., N=6), and the max coin setting is equal to 3, then a high limit value 500 equals 3 times 6 times 3 or 54, and the low limit 510 equals 2 times 6 times 3 or 36. The controller 200 of the present invention counts the number of eligible machines and arrives at the value for N, and then determines the high limit 500 and the low limit 510 in response to the start 248 of the bonus mode time period. These determinations are used by the linked random jackpot controller-based system 200 of the present invention for a single bonus mode time period, but is recalculated for each new bonus mode time period.

The controller 200 of the present invention, using a conventional random number generator located therein, then derives an award trigger 520 randomly between the high limit 500 and the low limit 510. This adds a further randomness to the game of the present invention and ensures fair selection from all eligible players based upon rate of play. The current value 530 in the random selector 270 can be initially set to any suitable value, preferably zero. If set to zero, at the start 248 of the bonus mode (time 430 in FIG. 4), the controller 200 monitors the unit bets from each eligible gaming machine as shown by dotted lines 272 and each unit bet increments 580 the current value 530 by one. It is important to keep in mind that the non-eligible gaming machines may be conventionally played, but the unit bet signals from those ineligible machines are not sensed by the increment current function 580. Only the eligible machines as they are conventionally played, have their unit bets sensed by function 580 to increment the current value 530 in the random selector 270.

When the increment current function 580 commences to start counting the unit bets from the eligible machines is set by the operator of the system of the present invention. Typically, a delay 264 (also termed ΔD), such as 5-10 seconds is incorporated. This is an optional feature. It is to be expressly understood that the increment current function 580 can commence immediately without delay or have a fixed delay 264 set by the operator, or any other suitable determination. The ΔD time period 264 allows the casino to extend the bonus mode time period without costing the house. The ΔD time period 264 also provides a "relaxation period" for the players.

When the current value 530 equals or exceeds 540 the award trigger 520, through incrementation 580, the controller at 542 enters the jackpot winner selection process 290 of FIG. 2. The gaming machine which causes the current value 530 to equal 540 the award trigger 520 is identified 544 and delivered 542 to jackpot winner selection process 290.

This portion of the operation of the controller 200 in the present invention is functionally shown in FIG. 5 with reference to FIG. 6. In FIG. 6, two bonus jackpots 610 and 620 in a bonus mode time period starting at time 430 are issued to randomly selected eligible machines. FIG. 6 further illustrates the operation of the present invention with the on-going example. The bonus mode start signal 261 is issued at time 430 and with reference back to FIGS. 2 and 5, the following are the eligible machines: G1, G3, G4, G8, G9, and G10 being played by eligible players E1, E3, E4, E8, E9 and E10. At time 430, there are six eligible players (N=6). As previously discussed, the high limit 500 equals 3 times 6 times 3 or 54, and the low limit 510 equals 2 times 6 times 3 or 36. The controller 200 using a random number generator randomly picks the value for the award trigger 520 between 36 and 54. In the example shown in FIG. 6, the first randomly selected award trigger equals the value of thirty-seven. The controller 200 sets the current value 530 to zero at time 430.

Under the teachings of the present invention, during a first Δ delay time 264, any unit bets made by eligible players E are ignored. Hence, player E4 at machine G4 has placed a three-dollar bet 601 and the unit bets of three are not counted. Counting commences after the Δ delay and the first three-dollar bet 602 by player E1 is counted and is shown on the current value 530 line as 3. Next player E8 places a three-dollar bet 603 so the current value 530 is now 6 due to the operation of the increment function 580. Next, player E3 places a two-dollar bet 604 and the current value 540 equals 8, and so on. One player, E9, subsequently at time 610, makes a three-dollar bet 600, the current value 530 now equals 38 which equals or exceeds 540 the award trigger value of thirty-seven, thereby causing a signal 542 to be issued from the random player selector 270 to the jackpot winner selection process. The eligible machine G9 is identified 544 by the controller 200 as being responsible for the issuance of signal 542. As will be described subsequently, gaming machine G9 will automatically 254 receive a bonus jackpot.

The system 200 enters the second bonus jackpot round at time 610. During the Δ delay period unit bets from eligible players E3, E4, and E8 are not counted. Counting starts with eligible player E9, making a three-dollar bet 611. In this second bonus jackpot round, the high and low limits 500 and 510 remain the same. The controller 200 selects a new random value for the award trigger 520, which, in this example, is forty-two. The current value 530 is reset to zero. Hence, the process repeats with the increment current function 580 continually adding each unit bet to the current value 530. When machine E10 at time 630 inserts two dollar coins, the current value 530 equals the award trigger 520, signal 542 issues, and the system 200 identifies eligible gaming machine G10 as winning the second bonus jackpot.

In this fashion, each bonus jackpot during the bonus mode time period is randomly, in time and through play, given to one of the eligible machines. What that machine is and when the award will be given is indeterminant and random. When a bonus jackpot is given, and with reference back to FIG. 3, bonus winner indicator 320 of the winning eligible machine is activated to inform that eligible player of winning a bonus jackpot. In addition, other indicators, such as a tower lamp

380 on top of the eligible machine may also be activated to flash so that people witnessing the game and other players can see who won the bonus award. Indeed, under the teachings of the present invention, an announcement may be made to all within the vicinity of the island 230 that a bonus jackpot has been given so that people can see which player receives the bonus jackpot.

While the above represents a preferred approach to randomly selecting a player for a bonus jackpot, it is to be expressly understood that any of a number of equivalent ways could be used. The preferred embodiment, however, adds excitement and incentive for an eligible player to continually play the maximum number of coins (i.e., unit bets) as fast as each game can be played. Even though the player selection is random, both in time and in identity, playing the maximum coin insert rather than a single coin insert and playing as rapidly as possible, increases the odds that that player may be the player to bring the current value 530 equal to the award trigger 520. It is to be understood that the use of "counting coins" is for illustrative purposes only and that, as mentioned, the monetary value can be inserted (or actually in the machine) in any one of a number of conventional approaches.

Clearly, if a player E who is eligible sits at an eligible gaming machine G, and does not place any unit bets, that player will never be selected to receive a bonus jackpot. All eligible players who conventionally play, however, have a sense of group participation. They are in a race against each other to quickly place bets so as to be selected for the bonus jackpots.

It is important to note that the controller 200 counts the unit bets in making the random selection 270. Hence, whether the controller 200 is counting the unit bets of one dollar or unit bets of twenty-five cents is immaterial. It is the count of the unit bet that occurs in the preferred embodiment not the actual value. However, it can be appreciated that the same approach as discussed for triggering the bonus mode (i.e., contributions based upon entry of monetary amount) could be used to make the random selection. Note that it is possible that two players may simultaneously bet, but the controller 200 awards only one bonus award when that occurs. In the preferred embodiment, and as shown in FIG. 2, puffer 255 sequentially polls each machine to receive the unit bet information. Hence, in the case of bets placed simultaneously by players at gaming machines G, only one player (i.e., the first player to be polled) is selected when that player's bet causes function 540 to become activated.

In summary, it can be observed that the bonus awards are randomly made by the controller-based system 200, both in time and in selection of the gaming machine. Eligible players at the gaming machines cannot predict when and who will be awarded a bonus award. The approach set forth with respect to FIG. 6 is the preferred approach for randomly selecting an individual eligible gaming machine for a bonus jackpot.

As with FIG. 2, FIG. 5 is neither a schematic or a software flow chart. FIG. 5 is a functional presentation showing the operation of the controller. As such, the components (such as 580, 510, etc.) and the interconnecting lines (such as 542) are part of the functional operation which are to be implemented into a conventional CPU and its associated memory and communications packages.

6. Random Selection of Bonus Awards.

In FIG. 2, a random payout selector 292 in the controller 200 is disclosed using a weighted payout table 294. The random payout selector 292 randomly selects, in the pre-

ferred embodiment, one out of eight weighted payouts from table 294. Any value could be used for the number of weighted payouts and in the example J=8. An example of a weighted payout table is set forth in the following table for the dollar gaming machines G of the ongoing example:

TABLE I

PAY	WEIGHT
\$5	50.40%
\$10	25.00%
\$25	12.50%
\$50	6.25%
\$75	3.12%
\$100	1.56%
\$250	0.78%
\$1,000	0.39%
Total: 100%	

The controller-based system 200 as discussed above with respect to FIG. 5 generates a signal 542 at times 610 and 620 (shown in FIG. 6) from the random player selector 270 to the jackpot winner selection process 290, as shown in FIG. 2. In the preferred embodiment, the random payout selector 292 continuously operates at a selection speed of 20,000/second so as to have weighted payouts continually available. While this speed is preferred, any suitable speed could be used. In response to signal 542, process 290 receives a weighted payout 296 from the random payout selector 292.

An example of a weighted payout table appears in Table I above. The value of the payout in Table I can be any suitable range of values. Each payout is given a "weight." The "weight" is the frequency that the payout is given. Hence, the five-dollar payout is given 50.4 percent of the time, the ten-dollar payout is given 25 percent of the time. The jackpot of \$1,000 is given in given out 0.39 percent of the time. Again, the weights can be any suitable percentage or range of percentages as long as they total 100%. The design of the payout amounts (pay 1 through pay J) and the weights (i.e., weight 1 through weight J) are designed for the jackpot game of the present invention and are based upon the contribution collected 240 so as to make the game fair to the player yet profitable to the operator of the game. Based upon the weighted percentage payouts, as illustrated in Table I above, the most frequent payouts are: five dollars, ten dollars, twenty-five dollars, and fifty dollars. Less frequent payouts are: seventy-five dollars, one hundred dollars, two hundred fifty dollars, and one thousand dollars.

When a bonus award (or payout) is made by the jackpot winner selection process 290, the bonus jackpot amount is delivered 298 to the "pay winner" function 254 which immediately credits over network 202b the amount in the credit register 390 (see FIG. 3a) of the identified winning eligible machine before the conventional game ends. The indicator 320 is activated so that the player is informed of the win and how much has been won while playing the conventional game. This adds further excitement to the player. Likewise, that amount 298 is used by the decrement current function 256 to decrement the current value (or jackpot pool) 220. This process, as previously discussed for FIG. 2, continues until the value in the current value (or jackpot pool) 220 equals or drops below zero to end 260 the bonus mode time period.

It is to be expressly understood that the weighted payout table shown in Table I is only an example. In operation, the controller 200 is fully programmable by the operator to provide hit frequencies and payout jackpots of any value.

Because the award of bonus jackpots are determined by the controller 200 of the present invention, the conventional

game play, on either eligible or ineligible gaming machines, is wholly unaffected.

The following three games illustrate the operation of the weighted payout table 294 in conjunction with the operation of the decrement current function 256 on the current value (or jackpot pool) 220.

Game I illustrates a typical game having eleven bonus jackpot rounds during a single bonus mode time period. FIG. 6 only illustrates the first two bonus jackpots or rounds 610 and 620. The bonus mode time period starts 248 with the current value 220 equaling or exceeding 246 the bonus mode trigger 218 of \$200. The current value or jackpot pool is set to the trigger value 218 of \$200. If the current value 220 at the start 248 exceeds the trigger value 218, the excess is set aside as will be more fully explained later.

GAME I

BONUS AWARD ROUND	PAYOUT VALUE 298 (DOLLARS)	CURRENT VALUE JACKPOT 220 (DOLLARS)	FUNCTION 258
		\$200	
1	5	195	
2	50	145	
3	5	140	
4	5	135	
5	10	125	
6	25	100	
7	5	95	
8	5	90	
9	10	80	
10	5	75	
11	10	65	
12	5	60	
13	5	55	
14	50	5	
15	10	-5	0

In Game I, and with reference to FIG. 6, if in jackpot round number 1 (corresponding to bonus jackpot 610 in FIG. 6), eligible player E9 wins five dollars. Eligible player E9 has his bonus winner indicator 320 activated and his credit register 390 (as shown in FIG. 3) automatically incremented 254 by the controller 200 of the present invention by five dollars. As this occurs, the decrement current function 256 in the controller 200 causes the value in the current value (jackpot pool) 220 to be decremented by five dollars or to \$195. This process continues until the current value (jackpot pool) 220 is equal to or less than zero. Hence, in bonus award round 15 of Game I, the jackpot payout value 298 of ten dollars causes the current value (jackpot pool) 220 to become a negative five dollars and function 258 decretes this and the controller causes the bonus mode time period to end 260. Game I of the present invention is now over.

As previously discussed, the current value 220 now has a value of a negative five dollars which is used for the initial current value for the next game cycle of the present invention.

The controller 200 of the present invention randomly picks a new bonus mode activation trigger 218, which for Game II is one hundred fifty dollars. The controller 200 collects contributions 240 to increment 244 the current value 220 until the current value 220 equals or exceeds 246 the bonus mode activation trigger 218 to start 248 a new bonus mode time period. The current value (jackpot pool) 220 is set to the trigger value 218 of one hundred fifty dollars and any excess in the current value 220 is set aside. Game II is illustrated below:

GAME II

BONUS AWARD ROUND	PAYOUT VALUE 298 (DOLLARS)	CURRENT VALUE JACKPOT 220 (DOLLARS)	FUNCTION 258
1	5	150	
2	5	145	
3	25	140	
4	5	115	
5	10	110	
6	10	100	
7	100	90	
		-10	0

The bonus mode time period for Game II starts with the first bonus award round paying five dollars to the surprised player who is randomly selected. The current value register 220 is reduced by five dollars from one hundred fifty dollars to one hundred forty five dollars. This process continues until round 7 where the eligible gaming machine randomly selected for the payout of one hundred dollars suddenly causes the current value 220 to be reduced from ninety dollars to minus ten dollars which causes it to drop below zero. The bonus mode time period for Game II of the present invention is now ended 260. For each jackpot payout, a different machine G is randomly selected by process 270 in controller 200. It is possible that the same machine may be randomly selected more than once in a game.

For Game III the system 200 of the present invention uses the current value 220 of minus ten dollars for Game II as the initial current value 220 for Game III plus the base value, which in this example is set to zero. Hence, in Game II, the contributions are collected 240 to increase 244 the current value 220 from minus ten dollars to the newly randomly selected trigger value 218, which is illustrated in Game III below to be one hundred seventy five dollars.

GAME III

BONUS AWARD ROUND	PAYOUT VALUE 298 (DOLLARS)	CURRENT VALUE JACKPOT 220 (DOLLARS)	FUNCTION 258
1	1000	175 -825	0

In Game III, one thousand dollars is hit on the first round to a randomly selected eligible gaming machine. This immediately causes the initial current value 220 to drop to minus eight hundred twenty five dollars which is well below zero. The bonus mode for Game III ends 260 in the first bonus award round.

For the next game the current value 220 from Game III of minus eight hundred twenty five dollars is used and the process of collecting contributions 240 incrementing 244 until the current value 220 equals the bonus mode value 218 occurs. This will take a period of time to accomplish.

The preferred embodiment of the present invention always fully pays the "negative" value that the jackpot pool has before the next bonus mode is started 248. The fact that the "negative value" is different from game to game of the present invention and becomes the current value for use in eventually triggering the next bonus mode start 248 adds to the randomness and unpredictability of the present inven-

tion. It is to be understood that from time to time a "negative value" is not obtained since it is possible the current value at the end of a bonus time equals zero.

In the random payout selection process 292, it is apparent from the above, that the controller 200 of the present invention randomly selects a weighted payout from a weighted payout table 294 for each bonus jackpot. The use of a weighted payout table 294 is preferred, but optional under the teachings of the present invention. Any payout schedule based on the use of a random number generator in the controller could be utilized under the teachings of the present invention. Furthermore, providing a fixed value such as \$10 for each bonus jackpot or a sequence of fixed values such as \$50, \$25, \$10, \$5, \$1, \$0.50, \$0.25, etc., in lieu of a table could also be used.

7. Operating Environments.

In FIGS. 7 and 9 the progressive gaming system 200 of the present invention is set forth in a first operating environment embodiment. In this embodiment, the gaming machines G are oriented around a circular frame 700. Audio and digital displays 710 are placed in a region on the frame 700 near the gaming machines G. A sound and light show can be generated from the center 720 of the circular frame 700, which can include audio, visual, mechanical effects or a combination thereof. In FIG. 9, a computer 900 is shown which interconnects with an audio system 910 and a visual display 920. The audio display 910 with reference back to FIG. 7 can comprise of a sound system located anywhere on the frame 700 or nearby. The visual display 920 can also be located in a pattern of digital displays, lights, etc. on or around the frame 700. The precise nature of the displays 910 and 920 is not important to the teachings of the present invention as those can be programmed into formats stored in memory 930. The object of the overhead signage, lights, sound, and graphics 910 and 920 is to provide the following display modes:

TABLE II

MODE	START 248	PAY WINNER 254	END 260
ATTRACT	OFF	OFF	ON
BONUS	ON	OFF	OFF
JACKPOT	ON	ON	OFF

The "ATTRACT" mode set forth in Table II above is used to attract and advertise the game of FIG. 7 to prospective players. For example, an attract format stored in memory 930 might have an audio voice announcement:

"Any coin might trigger the money!"

At the same time, the format 930 may have an overhead display 920 display "MONEYTIME". Additional graphics in display 920 could explain the rules of the game of the present invention.

During the "bonus" mode set forth in Table II above, the controller 200 has issued the start 248 signal, which indicates the start of the bonus mode time period. During the bonus mode time period, a second format can be selected from memory 930, which causes the audio 910 to announce "It's bonus time!" Music can be played which contributes to the excitement. In addition, the overhead meter 710, which forms part of the visual display 920, can be flashed with "dancing coins".

Finally, during the "jackpot" mode in Table II above, the start 248 has occurred and a pay winner 254 signal occurs indicating one of the eligible gaming machines has received a bonus award. During this mode the computer 900 selects

a celebration format from memory 930 to drive audio system 910 and the visual display 920 celebrating with frenzy and fanfare that a player has won a bonus jackpot and stating the value of the jackpot.

In FIG. 8 is set forth a second operating environment embodiment wherein the system 200 interfaces with a standard computer 800 having graphics memory 810 interconnected to a set of drivers 820 which in turn are interconnected with a display 830. The display 830 is large and can be positioned in the area around the controller 200 of the present invention such as near the island 230 of FIG. 2. It is to be expressly understood that the computer 800, graphics memory 810, driver 820 and display 830 are conventional. The computer 800 receives the start 261 signal from the bonus mode start 248, as previously discussed. When this signal 248 is detected, computer 800 operates as follows.

The display 830 is comprised of a plurality of segments 840. Each segment 840 could be in the shape of a square or rectangle as shown in FIG. 8 or in the shape of a standard jigsaw puzzle configuration. Each time the computer 800 receives signal 261 a new segment 840, on a random basis, is turned over to reveal a portion of a picture 850. If an eligible player is able to discern what the entire picture 850 is, then the player is entitled to yet another prize. This adds further excitement and attraction to the game.

It is to be expressly understood that the controller 200 and the computer systems shown in FIGS. 8 through 9 may all be implemented in the same computer controlled system 200. The embodiments shown in FIGS. 8 and 9 are illustrated using separate computers, which are specifically designed to handle large digital graphic and sound displays.

The overall operation of the controller-based linked random jackpot controller 200 of the present invention as shown in FIG. 2 is presented in FIG. 10. In FIG. 10, the system is initially reset in stage 1000. In stage 1010 the system ascertains whether it is still in the attract mode and whether the bonus mode is active. If the system is not in the bonus mode, then the process enters stage 1020 to activate the multimedia display in FIGS. 7 and 9 so as to attract players at the carousel 700 in FIG. 7. Stage 1030 is then entered wherein the system checks each gaming machine G to ascertain whether any eligibility status (see FIG. 4) has changed for any given machine. If the answer is yes, stage 1040 is entered wherein all eligible indicators 300 (FIG. 3) are updated as to eligibility. New gaming machines G that have become eligible have their eligibility indicator 300 activated in stage 1040 and gaming machines which lost eligibility have their indicators de-activated to indicate that they are no longer eligible. This was shown in FIG. 3 and fully discussed with respect to FIG. 4.

Stage 1070 is then entered. Stage 1070 inquires as to whether the bonus mode start 248 has occurred. If so, stage 1080 is entered and the system as shown in FIG. 9 over lines 248 starts the multimedia system through use of computer 900. This announces to all players that the bonus mode time period has started and the celebration commences. The bonus mode indicator 310 at each machine G is activated and the eligibility indicators 300 are locked on to be continually activated throughout the bonus mode time period. Stage 1090 is then entered to determine whether the bonus mode is over at stage 260 in FIG. 2. If the answer is yes, then stage 1092 is entered and the celebration is stopped by sending a signal 260 to the computer 900 as shown in FIG. 9 to stop the celebration. The bonus mode indicator 310 at each machine is de-activated and the eligibility indicators 300 are unlocked. Stage 1094 is then entered to ascertain whether or not a jackpot is hit. If it is hit, then the computer

900 is instructed over lines 254 to provide a jackpot celebration in stage 1096. In addition, the bonus winner indicator 320 at the winning machine is activated. This process then repeats at 1010.

The flow chart for the functions discussed in FIG. 2 is set forth in FIG. 11. The controller 200 initializes and starts 1100 and then enters stage 1104 where the current value 220 is set equal to the base value 216 which in the preferred embodiment is zero. In addition, the bonus mode 248 is set to the inactive state. The system then enters stage 1108 wherein the bonus mode trigger 218 is set equal to a random value between the high limit 212 and the low limit 214. It is well known in the art how to pick random integers between the high limit 212 and the low limit 214. The random number generator (RNG) for this is in the controller 200. Polling stage 1112 is then entered which obtains the next contribution 242 via function 240 from the gaming machine being polled 255 where a monetary amount is entered (such as a percentage of the coins played such as is done in the '909 patent). In stage 1116, this contribution 240 is added to the current value 220. Stage 1120 is entered to ascertain whether the bonus mode is already active. If the bonus mode is not active, then stage 1124 is entered and a determination is made whether the current value 220 is greater than or equal to the bonus mode trigger 218. If not, stage 1112 is re-entered and the process continues to receive contributions 240 from each polled 255 gaming machine G for monetary values entered by players P until in stage 1124 the answer is yes.

In FIG. 11, the shaded operational areas 1190 indicate that the bonus mode is activated (i.e., bonus mode has started 248). The controller 200 then enters stage 1128. Here the bonus mode is started 248 and the controller 200 sets the bonus mode into the active state, the bonus jackpot pool is set equal to the value of the bonus mode trigger 218, the bonus mode timer AD 264 is started and the next current value 220 is set equal to the base value 216 (which is zero in the preferred embodiment) plus (the current value 220 minus the bonus mode trigger value 218). The value in parenthesis represents the excess discussed earlier, which corresponds to the contribution over the trigger value 218. For example, the current value 220 may exceed the trigger value 218 by \$2 when the bonus mode is started 248, so the next current value 220 equals \$2. The process then returns to stage 1112 wherein new contributions made during the current bonus mode time period are added 1116 to the next current value 220. Stage 1130 is then entered and since the bonus mode is active, stage 1132 is now entered. In stage 1132, a determination is made whether a particular gaming machine G being polled is eligible. If the gaming machine is not eligible, then stage 1112 is re-entered to poll for next machine. It is to be expressly understood that the controller polls 255 each machine G. If the gaming machine being polled is eligible, then stage 1136 is entered. In stage 1136, a determination is made as to whether the award trigger 520 has been made. If the answer is no, then stage 1140 is entered wherein (and as shown and discussed with respect to FIG. 5), the random value of the award trigger 520 is set between the high limit 500 and the low limit 510 by the controller 200 as shown in FIG. 5. At the same time the value of the current 530 is set equal to 0. Stage 1144 is then entered wherein any unit bets for that gaming machine G are counted and added to the current value 530 (as illustrated and discussed with respect to FIG. 6). It is to be understood that if in stage 1136, the next award trigger 520 had already been set then stage 1144 would have been directly entered.

Stage 1148 is entered to determine whether or not the current value 530 equals or exceeds the award trigger value

520. If the answer is no, then stage 1112 is entered for the next gaming machine in the polling process. The next gaming machine is then interrogated in the above-described fashion. However, if the current value 530 equals or exceeds the award trigger 520, then stage 1152 is entered. In stage 1152, the random payout selector 292 selects a bonus jackpot from the weighted pay table 294 and in stage 1156 pays 254 the gaming machine that receives the jackpot. This was fully discussed with respect to FIGS. 2 and 3 wherein the I/O board 370 activates indicator 320 and causes the conventional credit meter 390 in the gaming machine to credit the amount. In addition, the tower lamp 380 may or may not be activated. In the preferred embodiment, all of this occurs before the conventional game at that gaming machine is over. It is to be understood that the jackpot could be awarded 254 at any time. Stage 1160 is now entered. In stage 1160, the value of the bonus jackpot awarded to that winning gaming machine G is subtracted from the jackpot pool.

Then stage 1164 is entered. In stage 1164, a determination 258 is made whether the current value jackpot pool 220 is less than or equal to zero. If it isn't, then the polling process repeats in stage 1112 for the next gaming machine. If the value of the jackpot pool is less than or equal to zero 258, then stage 1168 is entered and the bonus mode is sent to the inactive state (bonus mode end 260).

The current value 220 for the next game of the present invention is set in stage 1172 to the value of the jackpot pool, which as explained could be, and usually is negative. The following example based upon Games I and II above, is used to illustrate the operation of stage 1172. In Game I, the current value 220 incremented 244 until it exceeded the trigger value 218 of \$200. When this occurred the current value equaled \$202 so the excess of \$2 was set aside for the next current value (for Game II) and the current value 220 (for Game I) became the jackpot pool. During the bonus mode time period of Game I, the controller 200 continued to collect contributions in stage 1112 and adds these contributions to the "excess" in the next current value 220 (for Game II). When Game I ends 258, the current value 220 (for Game I) is negative \$5. In stage 1172, the controller adds the current value 220 at the end of Game I to the next current value 220 (for Game II) which at the end of Game I includes the value of the "excess" and the value of all contributions 1112 and 1116 added to it during the bonus mode time period for Game I. A base value, as used in the '909 patent could also be added to new pool (Game II) as an option.

It can be appreciated that the next current value 220 for the next game of the present invention is truly random and unpredictable.

8. Bonus Game Having Secret Bonus Pool.

In FIG. 12 is shown the secret bonus pool system 1200 in an alternate embodiment to the present invention which includes a plurality of games G and the controller 200. The controller 200 interconnects to bus 202, which in turn interconnects to the games G. In the alternative embodiment sixteen games (G_1 – G_{16}) are shown and it is to be expressly understood that any number of games G could be interconnected to bus 202. Games G can be any conventional game which a player plays according to game rules established for that conventional game as previously discussed. In this alternative embodiment, a bonus game is provided, displayed and played at each eligible gaming machine. The bonus game has different game rules than the conventional game played at the gaming machine. The bonus game discussed in the following is an $m \times n$ array (or matrix) of doors 1310 on a display 1300 at each gaming machine G.

A secret bonus pool 1210 builds in anticipation of a system 1200 wide bonus mode feature. At some unknown time, the system 1200 finally explodes into a frenzy bonus mode 248 as previously discussed. Once in bonus mode, and as shown in FIG. 13, as each eligible player wagers credits on their gaming machine G, a prize door 1310 is opened on the player's bonus LCD display 1300. A cash amount 1320 is revealed behind each door 1310 when turned over. When the player opens two prize doors 1310 each having the same cash award, that cash award is given to the player through automatic credit pay.

The system 1200 creates a heightened and accelerating frenzy effect as players at games G reveal many types of distinct cash awards that only they have received. The LCD display 1300 may contain many different prize doors that have been revealed. . . . cash prizes 1320 like \$25, \$15, \$50, \$5, \$75, \$250, . . . ! The player has the following thought in anticipation of receiving a bonus award, "In only one more game one of those doors is gonna open, and it's only a matter of time that something is gonna match!" The total number of distinct prizes 1320 are chosen so as to maximize player expectation, and to create more winning combination possibilities. This fuels the need for more play during bonus mode in order to "grab" personal prizes granted to each player during bonus mode. As more doors 210 are open, the chance of hitting any prize increases. . . . this means that the bonus mode will start slowly, and continue to accelerate towards a rapid bonus giveaway; in effect, the players are racing towards the cash!

As each award is paid to players who match prizes, the value of the award is subtracted from the secret bonus pool 1210. Once the bonus pool 1210 reaches zero (or any predetermined value), the system exits 260 the bonus mode as previously taught. As an option, a temperature gauge 1220 (or other suitable display) can be supported by the system 10 to indicate to all players the remaining amount of time in the bonus mode. This gauge 1220 actually represents the remaining amount of currency in the bonus pool which is no longer secret.

Also included in the bonus award giveaway is a "trump award", null, or zero value award. This award is typically the most frequent occurrence, and is used to minimize and adjust bonus mode length and average number of games played in bonus mode.

a. Theme

One possible theme for this system embodiment 1200 of $m \times n$ doors 1310 is that of "Hollywood Stars." At the beginning 248 of the bonus mode, the LCD 1300 shows all of the doors 1310 of all the stars 1330. Each door 1310 is actually the entry into the star's dressing room and has the star's name 1330 printed on the door. If the door opens, and there is no cash value, a picture 1360 of the star tells you in a phrase they have made famous. For example, and as shown in FIG. 14(a), one door 1410 is labeled "W. C. Fields" 1440; when his door is opened 1450, and no cash value is awarded, a sound card 1500 (FIG. 15) in the machine G announces: "There's a sucker born every minute!" An animation 1360 of W. C. Fields 1340 can be supported on the LCD panel 1300, and once over, the door 1310 slams shut. Another door 1310 might be labeled "Clark Gable" 1370, and if his door is opened without an award, his character announces: "Frankly my dear, I don't give a damn!"

If a cash award 1320 is revealed behind the door, then the sound card 1500 would use a producer's voice to say "your gonna be a star kid . . . here's 50 bucks!" In this case, the door 1310 stays open, and remains open until another \$50 dollar cash award is revealed, or until the bonus round is

over 260. At the end of the bonus round 260, a cartoon voice with animations appears in the LCD 1300 and replaces the doors that announces: "That's all f-f-f-folks!" The bonus carousel 720 itself is adorned with Hollywood effects, including huge spotlights, three-dimensional star-like statues, and pictures of commonly recognized Hollywood themes and personalities. The system will support up to any number such as 20 different stars.

It is to be expressly understood that any "theme" could be used under the teachings of this alternate embodiment. For example, the doors could be (a) coins that are flipped to show a value (or no value), (b) jack-in-the-boxes that spring open to award prizes, or (c) any of the conventional state lottery "scratch" themes. Furthermore, while a combination of two matches is used to make an award, any matching combination (such as three, four, or more) could be used.

In FIG. 15, the controller 200 is shown connected over bus 202 to an interface 1540 at a game G; the interface is connected to a control 1550 over lines 1542. The control 1550 is connected to the display 1300 over lines 1552, a sound card 1500 over lines 1554, the controller 200 is connected to memory 1520 over lines 1520. In gaming machine memory 1520 are stored all of the necessary data for the various graphical displays (e.g., door 1310, cash values 1320, animations 1510, etc.) and for the sound cards 300 (e.g., the phrases) for executing the "theme" of the bonus game in the gaming machine G. The control 1550 is a conventional microprocessor which may be connected to a random number generator 1560 or which may have a software random number generator routine. The sound card 1500 drives a stereo sound system 1530.

As an option to this embodiment, a special "final" bonus prize mode can be supported. Once the bonus mode is over, each door will automatically open in fast sequence to reveal pieces of a personal "hidden puzzle". If two of the doors has a matching mystery prize symbol, the hidden picture will reveal the player's bonus prize; this prize will be the largest award possible, and could be a progressive, a car, or a trip to Hollywood! If the doors reveal a "flop", a B rated movie, or a "cut", then no final bonus prize is awarded. The special mystery symbols can also be handed out during bonus mode as one of the prizes, and then the player must only catch one more behind one of the closed doors after bonus mode ends.

When not in bonus mode, the display 1300 and sound card 1500 will default to one of many auto-attract sequences. These attract sequences will be selected both randomly but also influences the current rate of play system wide.

b. System Operation

In most respects, this alternate embodiment of having a bonus game operates similarly to the embodiment shown in FIGS. 1-11. Player eligibility is the same. Financing the bonus pool, triggering the bonus mode, and turning on and off the bonus mode are the same. A color LCD panel 200 is mounted at or near each game G for purpose of game display for each player. This could also be a CRT, LED display or any equivalent visual display device. A stereo sound system 1530 is mounted at or near each game G. The system 1200 requires existing credit pay protocol support such as found in the SP7661GT game or the BALLY mystery pay protocol feed now supported in all new commercially available BALLY games.

In this system 1200, the controller 200 will poll each gaming machine G over bus 202 to obtain game start and wager information. If during the poll, the controller detects wager information and a valid game start, the LCD display 1300 will then be programmed to "reveal a door" at that gaming machine. The controller 200 randomly selects an

award value from the table of weighted awards 294 as previously discussed but, in contrast to the present invention, does so based upon each game start signal in each eligible gaming machine. This award value is temporarily recorded in a controller memory area 1520 specifically reserved for that machine G. If the award value has been previously recorded, then the award is paid to the credit meter of that machine since a "match" occurs. In the match case, the matching award is completely deleted from the controller memory 1520 of all current awards for that machine. When bonus mode exits, all tables in the memory are cleared of all jackpot values since all "prize doors" are reset for the start of the next bonus mode.

The player LCD display 1300 operates in conjunction with the process of storing and matching randomly selected awards within the controller 200 for each specific machine G. In other words, the in-machine display control 1550 has to track what the display 1300 should look like for that particular game. If the bonus game has three different prize doors open, then this corresponds to the fact that the controller 200 has recorded three prizes stored in its memory 1520 for that machine. This information is broadcast to each display control 1550 at all times during bonus mode. The display 1300 for each machine G will look different, even though each player is competing for all available cash reserves in the secret bonus pool 1210. The in-machine display control 1550 operates the in-machine sound card 1500. This sound card 1500 is equipped with all possible star voices, the producer's voice, and any other effects and music needed for the Hollywood theme or for any other desired theme. The actual selection of stars and voices will occur on a random basis and will be controlled by the in-machine display control 350. The controller 200 is responsible for maintaining and distributing awards.

The overhead signage 710 must be equipped with a display celebration queue, since prizes may be awarded at the same time. In fact, it is typical that most prizes are awarded near the end 260 of the bonus mode, with many occurring at the same time. In other words, the display 710 will rotate through all awarded prizes in sequence of their occurrence. Some delay may be incurred in the event of multiple awards. Overhead signage 710 will be most typically aimed at celebrating all action to outside bystanders.

To summarize, the LCD display 1300 is organized in an M by N prize door 1310 matrix, where the controller 200 controls all previously issued prize door values. The in-machine display control 1550 will control the themed effect. When not in bonus mode, the player's LCD display 1300 is used to verify eligibility and to promote game play through attract mode celebrations.

c. Game Expectations

The pay table values, the contribution rate and the total number of awards are determined precisely. Also, the total number of prize doors 1310 must exceed the total number of specific prize values 1320 by one or more.

Given the award table below, assume that a player receives one of the awards from the table each time they play. Note the \$0 award will typically have the highest value frequency.

TABLE II

Payout Prize Value	Door 1310 Value Selection (or Hit) Frequency
\$0	50%
\$5	25%
\$10	12%
\$25	7%
\$50	3%
\$100	2%
\$250	.9%
\$1000	.1%

The hit frequency of receiving any one prize door value is controlled by the payout hit frequency above. However, the chance of actually winning that prize is not the listed hit frequency. The reason for this is that two identical prizes must be granted before that prize is actually awarded.

In simulation, and given that one player is playing with an award pool of \$10 and \$100 respectively, the actual hit frequency for each award is as follows:

TABLE III

Payout Prize Value	Payable Hit Frequency	Actual Hit Frequency for Pool of \$10	Actual Hit Frequency for Pool of \$100
\$0	50%	N/A	N/A
\$5	25%	60.5%	54%
\$10	12%	25%	24.6%
\$25	7%	10.5%	13.6%
\$50	3%	2.45%	4.5%
\$100	2%	1.13%	2.5%
\$250	.9%	.27%	.6%
\$1000	.1%	.002%	.006%

For large pool values, where the number of game plays is high, the actual hit frequency approximates the payable hit frequency. However, note that for low pool values, the frequency for hitting the high prize frequencies is higher, while that of the low prize frequencies is even lower. This means that the chance of the display 1300 showing a high value prize is much greater than the chance of actually hitting. Thus, \$100 and \$250 dollar prizes are likely to be displayed on some player's screen 1300, but their chance of receiving that value is much smaller.

In FIG. 16 is shown an illustration of the operation of the bonus game having the secret bonus pool feature of this embodiment. The controller 200 is interconnected with memory 1520 over local bus 1526. In memory 1520 is an area for each gaming machine G. Illustrated in FIG. 16 are three such memory areas 1600, 1602, and 1604 for gaming machines G_{N-1} , G_N , and G_{N+1} . The controller 200 is also shown in FIG. 16 interconnected over bus 202 to the three gaming machines G_N , G_{N+1} , and G_{N+2} . Each gaming machine G has its display 1300. Each display 1300 is interconnected over lines 1554 to the gaming machine control 1550.

In the illustration of FIG. 16, a player at time T_0 plays game G_N , a player at time T_1 plays game G_{N+1} , and a player at time T_2 plays a game G_{N+2} . The illustration operates during the bonus mode as follows.

At time T_0 , controller 200 conventionally senses the start of the conventional game play in gaming machine G_N . Controller 200 receives from the weighted payout table 294 a jackpot bonus value of \$25, which is indicated in FIG. 16 as corresponding to time T_0 . The controller 200 accesses

memory 1520 over lines 1526 for the memory table 1600 corresponding to game G_N . During a prior game played at gaming machine G_N during the bonus mode, the controller 200 received a \$15 jackpot bonus award from the payout table 294 and wrote it into memory location 1600. At time T_0 , the controller 200 searches area 1600 to see whether the value of \$25 had already been written for gaming machine G_N . The value of \$25 had not priorly been written and the controller writes the value of \$25 corresponding to time T_0 . The controller 200 accesses the gaming machine G_N over bus 202 through interface 1540 and delivers into control 1550 the \$25 value. Controller 1550 randomly selects one of the remaining doors 1310 in display 1300 into which the \$25 jackpot value is to be written. Door 1612 had earlier been opened with the value of \$15 showing. In FIG. 16, the door 1610 is randomly chosen and opened. The \$25 value is displayed corresponding to time T_0 . The player at game G_N , after activating the start of the conventional game in gaming machine G_N , thereupon sees \$25 displayed at door location 1610. Player has already witnessed the opening of door 1612 and the displaying of \$15 in a prior game. The selection of which door 1310 to open is under control of the random number generator 1560 and the control 1550. This randomness provided to the bonus game having secret bonus pool is provided at the gaming machine G, but not limited to the game, since controller 200 may also determine location in another alternate embodiment. The player playing gaming machine G_N , in this illustration, does not win anything at time T_0 .

At time T_1 , the controller 200 in a conventional fashion determines that a player at gaming machine G_{N+1} has started play of the conventional game contained therein. Controller 200 corresponding to time T_1 receives a zero dollar payout from the pay table 294 and delivers it to the control 1550 in game G_{N+1} . Controller 200 does not take the zero dollar payout (null value) and access memory 1520. The control 1550 at gaming G_{N+1} receives a random number from the random number generator 1560 in order to select which of the remaining doors 1310 is to be opened. In the illustration of FIG. 16, door 1614 is opened which reveals a character 1360 and issues an audible "null" message through the sound card 1500 to the player. The player receives a null award which results in a character 1360 being illustrated and a phrase delivering a null message as discussed above. After the door 1614 opens and the phrase is stated, the control 1550 slams the door 1310 shut with a corresponding audible sound from sound card 1500. The door position at 1614 is made available to the control 1550 and the random number generator 1560 for the next selection. Hence, at time T_1 , the player at gaming machine G_{N+1} is informed that it won a zero or null award. Prior to and after time T_1 , gaming machine G_{N+1} continues to show in the display the bonus jackpots of \$5 and \$25, which are also stored in its corresponding memory location 1602 in memory 1520.

At time T_2 , the controller 200 senses a player at gaming machine G_{N+2} playing a conventional game in that gaming machine. Controller 200 receives a \$5 bonus jackpot award corresponding to time T_2 from the weighted payout table 294. The controller 200 accesses memory 1520 over lines 1526 for the memory table 1604 corresponding to gaming machine G_{N+2} . It searches through the bonus jackpot awards already listed in that table of \$5, \$10, and \$100. It sees a correspondence to the already stored \$5 amount. The controller 200 knows that gaming machine G_{N+2} has a win of \$5 based upon the combination of two \$5 awards. Since a win occurs, the \$5 value in memory is erased leaving only \$10 and \$100. Controller 200 then sends the \$5 amount plus a

win indication over bus 202 to gaming machine G_{N+2} through the interface 1540 and into the control 1550. Control 1550 for gaming machine G_{N+2} knows that it is to display a win and to play a win audible announcement in sound card 1500. The player sitting at gaming machine G_{N+2} sees the door open and the \$5 jackpot bonus award displayed at position 1616. The priority displayed \$5 jackpot award shown at position 1618 is also displayed with a different background such as with a star 1619. The star 1619 could be flashing or glow in brilliance so as to inform the player immediately of the win. At the same time, the credit meter in the gaming machine G_{N+2} is incremented by the amount of \$5. In the preferred embodiment, this occurs before the conventional game being played by the player at gaming machine G_{N+2} is finished. After the credit meter is incremented, the doors 1310 at positions 1616 and 1618 are closed leaving only the \$10 and \$100 doors open at positions 1620 and 1622. It is to be noted that the player at gaming machine G_{N+2} had previously displayed \$10 and \$100 which is stored in memory location 1604 of memory 1520.

The illustration of FIG. 16 shows the operation of the bonus game having secret bonus pool of this embodiment during the bonus mode. At time T_{10} , the controller 200 and in response to game play at gaming machine G_N inserts a \$25 value in memory 1600 and causes it to be displayed in display 1300 at a random location 1610 as selected by control 1550 through interaction with the random number generator 1560. The player at gaming machine G_N immediately sees the display of \$25, which acts as encouragement to play machine GN as fast as the player can. At time T_{11} , the controller 200 in response to game play at gaming machine G_{N+1} selects a null award which is not stored in memory area 1602 and which causes at a random location 1614 in display 1300 a "character" to be displayed and a null phrase to be played which most typically is humorously based. A null award of zero dollars occurs most frequently in the display of the character 1360 and the sound message sound card 1500 adds excitement to the play of the bonus game. Finally, at time T_{12} , controller 200 in response to game play at gaming machine G_{N+2} receives a bonus jackpot value of \$5 from the weighted payout table 294 which it matches in memory 1604 with a \$5 value already stored. This matching combination causes the controller 200 to deliver a win signal to the controller 1550 in gaming machine G_{N+2} so as to display the winning combination in doors 1616 and 1618 along with a win message from the sound card. The gaming machine G_{N+2} receives the \$5 credit in its credit meter.

It is to be expressly understood that the times T_{10} , T_{11} , and T_{12} in FIG. 16 are for purposes of illustration. It is to be appreciated that with a number, such as forty gaming machines G , interconnected to a controller 200, that displays 1360 corresponding to a null award occurs most frequently throughout the forty machines. Furthermore, it is to be understood that a number of bonus values are displayed such as 1612 and 1622 on displays 1300 throughout the gaming machines G without a winning combination. Finally, when winning combinations 1619 are found by controller 200 in memory 1520, such winning combinations are visibly displayed 1619 along with a win audible message. The credit meters for those machines are then incremented by the amount of the bonus award. Null values are most frequent in the preferred embodiment but does not have to be. Null values are most important since their frequency can be used to adjust the rate of bonus awards.

It is to be appreciated that the illustration of FIG. 16 occurs during the bonus mode as previously taught. It is also to be appreciated, that more winning combinations 1619

occur towards the end of the bonus mode since it takes time to build up the displays such as 1610, 1612, and 1622. With more and more of these types of dollars being displayed in display 1300 across the various gaming machines, towards the end of the bonus mode, more winning combinations occur. As before, only one winning combination 1619 occurs in one gaming machine to cause the bonus mode to end 260. Furthermore, it is to be expressly understood that any winning combination could occur. For example, in the illustration of FIG. 16, two corresponding jackpot values cause a winning combination. The system could be designed to have three or more. Furthermore, the winning combination could be based upon a pattern such as three or four identical values in a row appearing in the display 1300. The control 1550 would detect the "in-row" combination and deliver a "win" signal back to the controller 200. It is to be expressly understood that the controller 200 could also determine such win combinations. In addition, a wild card feature could be utilized. For example, the weighted pay table 294 could issue a wild card symbol such as a four-leaf clover. The fact that a four-leaf clover was issued by the weighted payout table 294 would also be stored in memory 1520 and would be delivered to the control 1550 of the gaming machine causing the generation of the four-leaf clover. The four-leaf clover would then be displayed in one of the doors 1310 of the display 1300. When the next bonus value is displayed for that machine an automatic win would occur. These other variations to the teachings of the present invention could be implemented in the bonus game having a secret bonus pool of this embodiment.

The aforesaid method of operating the second or bonus game of the present invention in a linked gaming system having a plurality of gaming machines is summarized as follows. The second game for the linked gaming system becomes activated when the bonus pool equals or exceeds a certain high value. Each of the gaming machines is notified at the start of the bonus game of eligibility. The second game of the present invention has different game rules than the game rules for the gaming machines. As discussed, the gaming machines are conventional gaming machines and the second or bonus game is played at each machine in a separate display located at (i.e., on, in, or near) each gaming machine. In the preferred embodiment, the bonus game is a "door" game (i.e., a matrix of images such as doors) wherein a bonus jackpot value is randomly selected in response to game play occurring at any one of the gaming machines. In the preferred embodiment the bonus jackpot values are selected from a set of values including null values. The selected bonus jackpot values are then displayed at that gaming machine by opening the doors (i.e., replacing an image in the matrix with the value in an image of an open door). It is to be expressly understood that although "doors" are used, that any display image could be utilized such as stars, windows, dollars signs, etc. In other words, any image could be utilized. While the preferred embodiment causes the random selection of the bonus jackpot value and the display of it to occur in response to the start of conventional game play at the gaming machine, it is to be expressly understood that any suitable event occurring during the play of a game at a gaming machine could be utilized under the teachings of the present invention. Hence, selection and display could be triggered by coin-in, the start of game play, a predetermined time after start of play, at the end of game, or a period of time after the end of game play. The storing of the selected bonus jackpot value preferably occurs in the memory of the controller, but could be stored elsewhere such as in memory in the interface of the gaming machine. When

the selected bonus jackpot value corresponds in value to one already stored, then a win occurs and the gaming machine is awarded the selected bonus jackpot value. The player knows that this has occurred because the player will see two bonus jackpot values displayed in open doors. The controller of the present invention at the same time can cause a light and sound promotion to also occur. The prior stored jackpot value is then erased in memory and the matrix images for the awarded bonus jackpot values in the display are restored. This step of erasing does not erase any other prior stored jackpot values, only the most recently selected bonus jackpot value. The steps of storing, awarding, and erasing may occur in a different order. What is important is that selected bonus jackpot value is displayed at a gaming machine so that the player can immediately see it in response to separate game play at the gaming machine. When bonus jackpot values are the same (i.e., a match) then an award is made. This is the preferred invention since one could easily have any combination, (e.g., three matching values, or a sequence of numbers such as one dollar, two dollars, or three dollars). Furthermore, rather than have dollars displayed, the number of coins to be awarded could be displayed such as three coins, ten coins, etc. In addition, rather than have dollars or coins displayed, symbols could be displayed corresponding to a monetary prize. The present invention is not to be limited by the nature of the image (i.e., the door) or of the displayed "selected bonus jackpot value."

The above disclosure sets forth a number of embodiments of the present invention. The present invention is not to be limited to a disclosure contained herein and other arrangements and embodiments, not precisely set forth, may be practiced under the teachings of the present invention and as set forth in the following claims.

I claim:

1. A method of operating a bonus game in a linked gaming system having a plurality of gaming machines, each of said plurality of gaming machines having a game based on machine game rules, said method comprising the steps of:
 starting the bonus game in a display at each eligible gaming machine in the plurality of gaming machines when a bonus pool in the linked system is activated, the bonus game having bonus game rules different from the machine game rules for the gaming machines;
 selecting a bonus jackpot value in response to game play at any one of the eligible gaming machines;
 displaying the selected bonus jackpot value in the display of the aforesaid one eligible gaming machine according to the bonus game rules;
 storing the selected bonus jackpot value when any prior stored bonus jackpot values for the aforesaid one eligible gaming machine are different than the selected bonus jackpot value;
 awarding the selected bonus jackpot value to the aforesaid one eligible gaming machine when the selected bonus jackpot value equals a prior stored bonus jackpot value;
 erasing the prior stored jackpot value equaling the selected bonus jackpot value;
 subtracting the awarded bonus jackpot value from the bonus pool;
 ending the bonus game when the bonus pool is brought to or below a predetermined value.

2. The method of claim 1 wherein the bonus game is a match game behind a plurality of displayed images, and said step of displaying further including the step of displaying the selected bonus jackpot value in place of one of the displayed images.

3. The method of claim 2 wherein the displayed images are closed doors formed in a matrix.

4. The method of claim 2 wherein which displayed image is replaced by the selected bonus value is randomly selected.

5. The method of claim 4 wherein the random selection occurs in the aforesaid one eligible gaming machine.

6. The method of claim 1 wherein the step of storing the selected bonus jackpot value occurs in a memory at a memory location for the aforesaid one eligible gaming machine and the step of erasing occurs at the aforesaid memory location.

7. A method of operating a second game in a linked gaming system having a plurality of gaming machines, each of said plurality of eligible gaming machines having a first game based on machine game rules, said method comprising the steps of:

displaying in a display at each eligible gaming machine in the plurality of gaming machines a matrix of images for the second game;

selecting a jackpot value for the second game in response to first game play at any one of the eligible gaming machines;

randomly selecting one of the images in the matrix of the display of the aforesaid one eligible gaming machine and displaying the selected jackpot value in its place in the display of the aforesaid one eligible gaming machine in response to the step of selecting;

storing the selected jackpot value when all prior stored jackpot values for the aforesaid one eligible gaming machine are different than the selected jackpot value in response to the step of selecting;

awarding the selected jackpot value to the aforesaid one eligible gaming machine when the selected jackpot value equals a prior stored jackpot value in response to the step of selecting;

erasing the prior stored jackpot value equaling the selected jackpot value in response to the step of awarding;

replacing the awarded selected bonus jackpot values displayed in the matrix with images in response to the step of awarding.

8. The method of claim 7 wherein the displayed images are closed doors.

9. The method of claim 8 wherein the random selection occurs in the aforesaid one eligible gaming machine.

10. The method of claim 7 wherein the step of storing the selected jackpot value occurs in a memory at a memory location for the aforesaid one gaming machine and the step of erasing occurs at the aforesaid memory location.

11. A method of operating a bonus game in a controller-based progressive jackpot linked gaming system having a controller and a plurality of gaming machines connected to the controller, said method comprising the steps of:

starting play of the bonus game in a display at each eligible gaming machine of the plurality of gaming machines when a bonus pool in the controller is activated, the bonus game having game rules different from the game rules for the gaming machines;

providing a plurality of bonus jackpot values;

selecting in the controller a bonus jackpot value from the plurality of bonus jackpot values in response to each bonus game played at any one of the eligible gaming machines;

displaying the selected bonus jackpot value in the display of the aforesaid one eligible gaming machine according to the bonus game rules;

awarding the selected bonus jackpot value to the aforesaid one eligible gaming machine based upon a win during play of the bonus game according to the bonus game rules;

subtracting each awarded bonus jackpot values from the bonus pool;

ending play of the bonus game when the bonus pool is brought to or below a predetermined value in response to the step of subtracting.

12. A method of operating a bonus game in a controller-based progressive jackpot linked gaming system having a controller and a plurality of gaming machines connected to the controller, said method comprising the steps of:

starting the bonus game in a display at each eligible gaming machine of the plurality of gaming machines when a bonus pool in the controller is activated, the bonus game having game rules different from the game rules for the gaming machines;

selecting in the controller a bonus jackpot value in response to each game play at any one of the eligible gaming machines;

displaying the selected bonus jackpot value in the display of the aforesaid one eligible gaming machine according to the bonus game rules;

wherein the step of selecting a bonus jackpot value includes selecting a null value and wherein the step of displaying the selected bonus jackpot includes the step of displaying a visual symbol in the display in response to selecting the null value;

awarding the selected bonus jackpot value to the aforesaid one eligible gaming machine based upon the bonus game rules;

subtracting the awarded bonus jackpot value from the bonus pool;

ending the bonus game when the bonus pool is brought to or below a predetermined value.

13. The method of claim 12 further comprising the step of audibly sounding a message in response to the step of selecting the null value.

14. The method of claim 11 further comprising the steps of:

displaying a win message in the display of the aforesaid one eligible gaming machine in response to the step of awarding the selected bonus jackpot value;

audibly sounding a win message in response to the aforesaid step of displaying.

15. The method of claim 14 further comprising the step of removing the win message and the displayed selected bonus jackpot values from the display of the aforesaid one eligible gaming machine after the step of awarding.

16. A method of operating a bonus game in a controller-based progressive jackpot linked gaming system having a controller and a plurality of gaming machines connected to the controller, said method comprising the steps of:

starting the bonus game in a display at each eligible gaming machine of the plurality of gaming machines when a bonus pool in the controller is activated, the bonus game having game rules different from the game rules for the gaming machines;

selecting in the controller a bonus jackpot value in response to each game play at any one of the eligible gaming machines;

displaying the selected bonus jackpot value in the display of the aforesaid one eligible gaming machine according to the bonus game rules;

awarding the selected bonus jackpot value to the aforesaid one eligible gaming machine based upon the bonus game rules;

wherein the step of awarding includes the steps of:

storing the selected bonus jackpot value when the prior stored bonus jackpot values for the aforesaid one gaming machine are different than the selected bonus jackpot value;

awarding the selected bonus jackpot value when the selected bonus jackpot value equals a prior stored jackpot value;

erasing the prior stored jackpot value equaling the selected bonus jackpot value in response to the step of awarding;

subtracting the awarded bonus jackpot value from the bonus pool;

ending the bonus game when the bonus pool is brought to or below a predetermined value.

17. The method of claim 16 wherein the step of storing occurs in memory in the controller.

18. The method of claim 11 wherein the bonus jackpot is selected from a weighted payout table in the controller containing the plurality of bonus jackpot values.

19. A method for playing a bonus game in a gaming system having at least one gaming machine, said method comprising the steps of:

(a) displaying a matrix of images in a display at the at least one gaming machine;

(b) randomly selecting a bonus award when the at least one gaming machine is played;

(c) randomly selecting one of the images in the matrix of the display;

(d) replacing the randomly selected image with a bonus award image corresponding to the randomly selected bonus award;

(e) repeating steps (b) through (d) until a matching combination of bonus award images occurs;

(f) awarding the bonus award corresponding to the matching combinations of bonus award images.

20. The method of claim 19 wherein the images are doors and the bonus award images are opened doors with the values of the bonus awards contained therein.

21. The method of claim 19 wherein the bonus awards include a null value and wherein the bonus award image corresponding to the null value is different from the other bonus award images.

22. The method of claim 21 wherein the bonus award image corresponding to the null value is an image of a person.

23. The method of claim 19 further comprising the step of audibly sounding a losing message to the area around the at least one gaming machine when said bonus award image corresponding to the null value replaces the randomly selected image in the matrix.

24. A method for playing a bonus game in a gaming system having at least one gaming machine, said method comprising the steps of:

(a) displaying a matrix of first images in a display at the at least one gaming machine;

(b) randomly selecting a bonus award from a set of values including a null value when the at least one gaming machine is played;

(c) randomly selecting one of the first images in the matrix of the display, (d) replacing the randomly selected first image with a second image containing the value of the

35

randomly selected bonus award when the bonus award is other than a null value;

(c) replacing the randomly selected first image with a third image when the bonus award is a null value;

(f) audibly sounding a losing message in response to step (c);

(g) replacing the third image with a first image after a period of time in response to step (c);

(h) repeating steps (b) through (g) until a matching combination of values in the second images occurs;

(i) awarding the bonus award corresponding to the matching combination to the at least one gaming machine;

(j) audibly sounding a winning message in response to step (i).

25. The method of claim 24 wherein the first image is a closed door, the second image is an open door, and the third image is a person and wherein the losing message is the voice of the person.

26. The method of claim 24 wherein the matching combination is two values that are the same.

27. The method of claim 24 wherein the bonus awards constitute a bonus pool and further comprising the steps of:

(k) replacing the second images of the matching combination with first images in response to step (i);

(l) repeating steps (b) through (k) until the bonus pool is depleted of bonus awards.

28. A method of operating a bonus mode in a controller-based progressive jackpot linked gaming system having a controller and a plurality of gaming machines connected to the controller, said method comprising the steps of:

starting a bonus mode time period when a bonus pool in the controller is activated, the bonus pool having a value at activation;

determining eligible gaming machines in the plurality of gaming machines when the bonus mode time period starts;

starting play of a bonus game in a display at each of the eligible gaming machine of the plurality of gaming machines, the bonus game having game rules different from the game rules for the gaming machines;

providing a plurality of bonus jackpot values, each bonus jackpot value less in value than the value of the bonus pool;

36

selecting in the controller a bonus jackpot value from the plurality of bonus jackpot values in response to each bonus game played at any one of the eligible gaming machines;

displaying the selected bonus jackpot value in the display of the aforesaid one eligible gaming machine according to the bonus game rules;

awarding the selected bonus jackpot value to the aforesaid one eligible gaming machine when a win occurs at the bonus game according to the bonus game rules and allowing the bonus game to be replayed when a lose occurs at the bonus game according to the bonus game rules;

subtracting the awarded bonus jackpot values from the bonus pool;

ending play of the bonus mode time period when the value of the bonus pool is brought to or below a predetermined value in response to the step of subtracting.

29. A method of operating a bonus mode in a controller-based progressive jackpot linked gaming system having a controller and a plurality of gaming machines connected to the controller, said method comprising the steps of:

starting a bonus mode time period with a bonus pool having a value with eligible gaming machines in the plurality of gaming machines;

providing a plurality of bonus jackpot values;

starting a bonus game at each eligible gaming machine, the bonus game having game rules different from the game rules for the gaming machines;

randomly selecting in the controller a bonus jackpot value from the plurality of bonus jackpot values in response to each bonus game started;

awarding the randomly selected bonus jackpot value to the aforesaid one eligible gaming machine when a win occurs at the bonus game and playing the bonus game again with a new randomly selected bonus jackpot value when a lose occurs at the bonus game;

subtracting the awarded bonus jackpot values from the bonus pool;

ending play of the bonus mode time period when the value of the bonus pool is brought to or below a predetermined value in response to the step of subtracting.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,146,273
DATED : November 14, 2000
INVENTOR(S) : Olsen, Eric B.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 31,
Line 49, replace "any" with --all--

Signed and Sealed this

Third Day of July, 2001

Nicholas P. Godici

Attest:

Attesting Officer

NICHOLAS P. GODICI
Acting Director of the United States Patent and Trademark Office

EXHIBIT D



US006887154B1

(12) **United States Patent**
Luciano, Jr. et al.

(10) **Patent No.:** **US 6,887,154 B1**
 (45) **Date of Patent:** **May 3, 2005**

(54) **SHARED PROGRESSIVE GAMING SYSTEM AND METHOD**

(75) Inventors: **Robert Anthony Luciano, Jr., Reno, NV (US); Loren Travis Nelson, Reno, NV (US)**

(73) Assignee: **Sierra Design Group, Las Vegas, NV (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 116 days.

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(22) Filed: **Jun. 4, 2002**

(51) Int. Cl.⁷ **A63F 9/24**

(52) U.S. Cl. **463/26; 463/42**

(58) Field of Search 463/12-13, 16-22, 463/25-28, 40-42; 273/138.1, 138.2, 139, 143 R

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,275,400	A	1/1994	Weingardt
5,564,700	A	10/1996	Celona
6,077,162	A	6/2000	Weiss
6,089,980	A	7/2000	Gauselmann
6,146,273	A	11/2000	Olsen

6,206,782	B1 *	3/2001	Walker et al.	463/25
6,319,125	B1 *	11/2001	Acres	463/25
6,575,832	B1 *	6/2003	Manfredi et al.	463/25

* cited by examiner

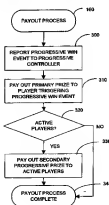
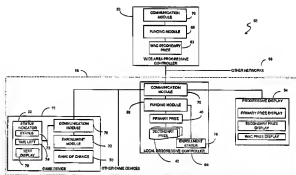
Primary Examiner—Mark Sager

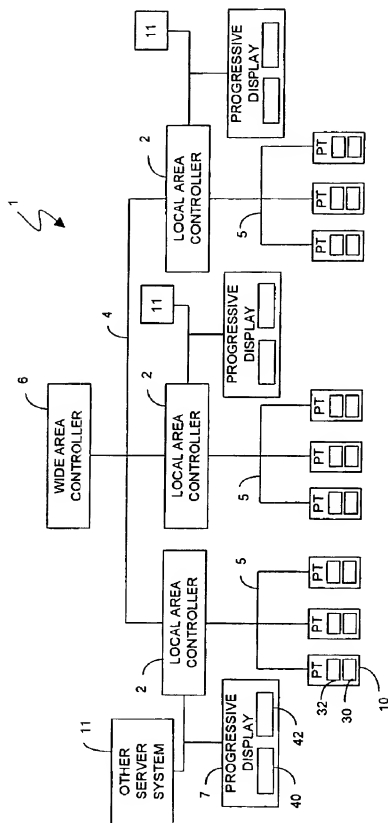
(74) *Attorney, Agent, or Firm*—Russ F. Marsden

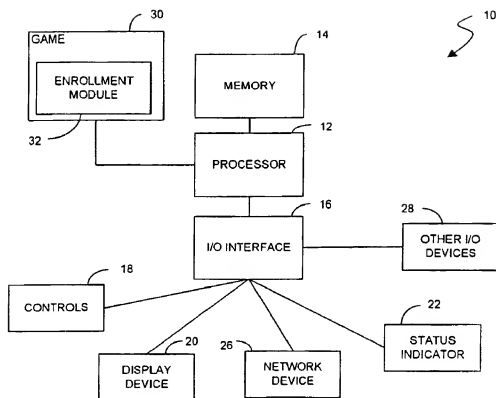
(57) **ABSTRACT**

A progressive system (local and wide) where a primary and secondary progressive meter is maintained is disclosed. When a progressive win event occurs, there are two payouts: the first payout (defined by the primary meter) is paid to the player triggering the progressive payout event; the second payout (defined by the secondary meter) is paid to other players (or game devices) having "active" or "enrolled" status at the time of the primary payout event. The present invention provides a method for automating the "shared" win, including means for readily determining "active" players. A countdown meter may be used to enable the player a sufficient amount of time to continue play and be considered "active." Additionally display meters may be used to indicate the status of the player or to warn the player of an imminent change in status. The progressive prizes may be funded using traditional methods (e.g., percentage of wagers, marketing budget). The progressive prizes may also be funded using expired prizes which have expired or lapsed.

18 Claims, 7 Drawing Sheets



*Fig. 1*

*Fig. 2*

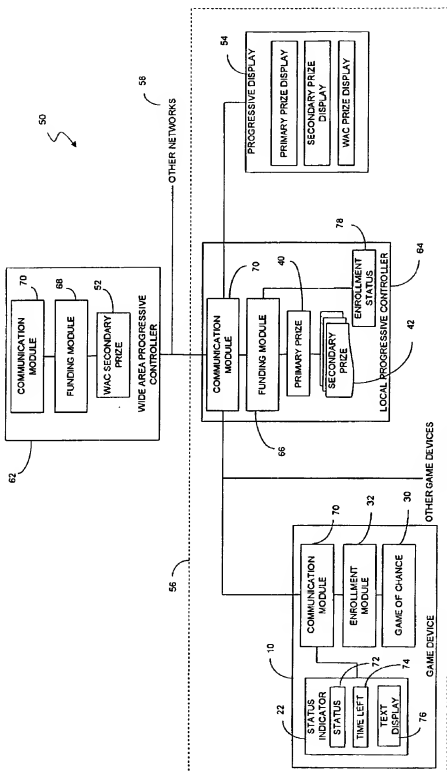
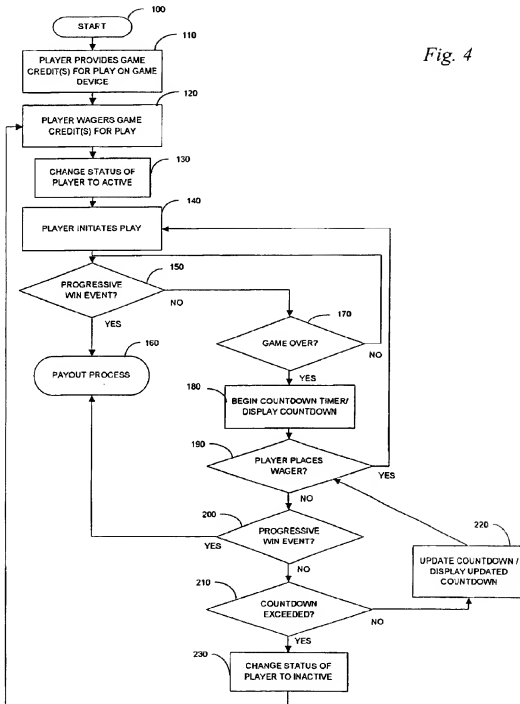
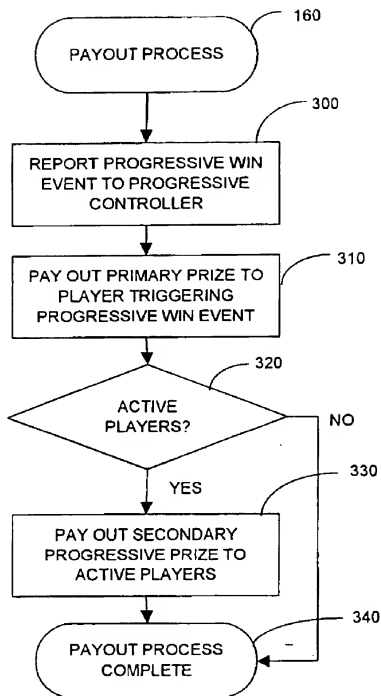


Fig. 3

Fig. 4



*Fig. 5*

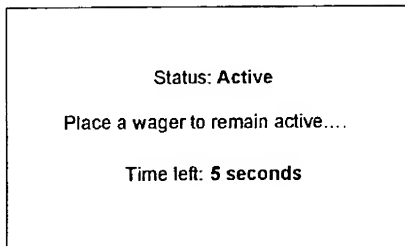


Fig. 6A

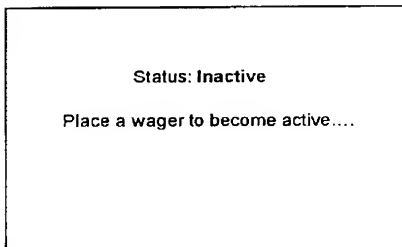
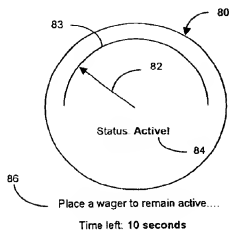
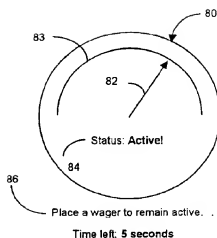
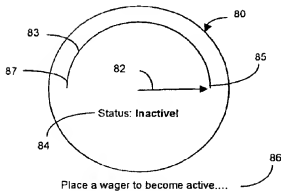


Fig. 6B

*Fig. 7A**Fig. 7B**Fig. 7C*

1

SHARED PROGRESSIVE GAMING SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention pertains generally to progressive systems for gaming. More particularly, the invention relates to a shared progressive gaming system and method which allows a plurality of players to share a progressive prize.

2. The Prior Art

Progressive systems for gaming environments such as casinos are known. A typical progressive system arrangement includes a plurality of gaming devices, such as slot machines, video poker machines, video keno machines, video lottery machines, each linked for communication with a central progressive controller. A wager is made to play the game associated with the gaming devices. For each wager made at the gaming devices, a portion is used to fund a progressive prize which is maintained and accumulated by the progressive controller. The progressive prize is then awarded to a player upon the occurrence of a triggering win event, either determined pursuant to play on the gaming device or by some other criteria, such as according to a random determination by the progressive controller. Since the triggering win event for awarding the progressive prize occurs infrequently, the progressive prize generally accumulates to a large sum. As a result, players are attracted to playing the gaming devices in order to win the large progressive prize, thereby increasing game play and therefore overall revenue for the casino operator.

Efforts to improve this general scheme for paying a progressive prize have been attempted to further increase player interest. An example improvement arrangement is disclosed in U.S. Pat. No. 5,564,700 to Celona. In the Celona progressive method, a progressive jackpot is paid proportionally to eligible players at each of the linked gaming machines. The eligibility of players to share in the progressive jackpot may be conditioned upon "playing a maximum bet" within a "predetermined time interval before the progressive jackpot-winning outcome occurs." Payment of the progressive jackpot may be divided equally among all eligible players, or may be paid proportionally (e.g., the player at the machine that generated the progressive jackpot-winning outcome may receive a greater proportion (such as half) of the jackpot, or the proportion of the jackpot paid to each of the players may be adjusted in accordance with the contribution of each machine to the progressive jackpot sum).

While the payout method of Celona may foster increased participation and play from players, there are several drawbacks. First, the motivation for winning a large progressive jackpot is diminished, even where as in Celona "the player at the machine that generated the progressive jackpot-winning outcome may receive a greater proportion." This diminished motivation arises from the fact that the player perceives that he or she will have to "share" the displayed or advertised jackpot with other players. Players prefer playing for a large life-changing jackpot, and the sharing of the jackpot, even where the player receives a greater proportion reduces the overall player interest.

Additionally, the incentive for remaining eligible to share in the jackpot is inadequate in the Celona implementation. For example, one way to determine eligibility is for the central controller to determine the interval between the time of play initiation on the gaming device and the time of the

2

jackpot-winning outcome; if the time interval is less than the predetermine interval for jackpot eligibility, then the player qualifies to share in the jackpot. However, as disclosed, this calculation is carried out after the jackpot-winning outcome has already occurred. There are no indicators or cues provided to the player to encourage the player to remain eligible prior to the jackpot-winning outcome. Absent such indicators and cues, players are less informed and are less likely to satisfy the requirement of remaining eligible. This problem results in decreased play and lost revenues for the operator.

Accordingly, there remains a need for further increased player participation in progressive payout arrangements. The present invention satisfies these needs, as well as others, and generally overcomes the deficiencies found in the background art.

BRIEF DESCRIPTION OF THE INVENTION

The present invention is a system and method for providing an enhanced shared progressive system and method, suitable for use in gaming establishments such as casinos. The progressive system may be used in a wide area environment and/or a local area environment.

In general, the progressive system comprises at least one progressive controller coupled for communication with one or more gaming devices (or player terminals) via a networking connection. A finding module operating in the progressive controller maintains a primary progressive prize and a secondary progressive prize, the progressive prizes displayed normally by the progressive controller using a progressive display meter or other display means. In operation, the funding module funds the progressive prizes which are awarded as described in greater detail further below. Various funding arrangements are suitable for use in funding the prizes, including using a percentage of wagers placed on the gaming devices, or using a percentage of the pay table awards for paying prizes on the gaming devices, for example.

An enrollment module operating in the gaming device carries out several operations as described in more detail further below. In general, the enrollment module monitors game events on the gaming device and further communicates with the funding module to indicate the "active" or "inactive" status of the player playing the gaming device based on the determined game events. According to one aspect of the present invention, an "active" status player may be eligible to share in a one or more secondary progressive prizes. Various strategies may be used to determine the status of the player to encourage play on the gaming device, such as based on the average play over a period of time, or based on a requirement that the player perform some action within a period of time from the end of the previous game, for example.

The enrollment module is further coupled for communication with a status indicator. The status indicator may comprise various forms such as mechanical indicators or dials and/or electronic display indicators (e.g., video display, LED, LCD), or may comprise a portion of the base game display. The enrollment module displays the status of player (i.e., "active" or "inactive") through the status indicator. If the player's status is "active," the status indicator may further indicate how long the player's status will remain "active" before becoming "inactive" (e.g., a countdown indicator or dial). Other text messages may be further displayed to the player pursuant to this arrangement such as warnings, for example.

3

In operation, the system awards the primary and secondary progressive prizes pursuant to game events occurring on the gaming devices. In particular, the funding module monitors the communication network for specific progressive award triggering events which when triggered by a player, entitling the player to the primary progressive prize. Additionally, players who have an "active" status at the time of the progressive award triggering event are entitled to share in the secondary progressive prize. The share of the secondary prize may be distributed to players using various strategies including an equal share, or a proportional share based on one or more criteria (e.g., amount bet, average bet, player tracking points).

According to the present invention, players seeking large progressive wins are drawn to the system of the present invention because a large primary progressive prize may be won without sharing with other players; and at the same time players seeking to benefit from regular or active play are also drawn to the system because one or more shared secondary progressive prizes may be dispensed to the "active" player even if another player has won the large primary prize. Additionally, the enrollment module and status indicator provides a visible means for encouraging the player to remain active to qualify for the shared secondary prize. Under this arrangement, the present invention overcomes many of disadvantages associated with the prior art.

According to another embodiment of the invention, the system further provides a prize expiration and reissue module executed by the central progressive controller or other central server device. According to this embodiment, the player may be awarded one or more prizes, which require redemption. Such prizes may be in the form of points, coupons, game pieces, for example and may require the player to accumulate or collect a certain amount or arrangement of points, coupons, game pieces, etc. The prizes may be awarded to a player using a variety of means, such as via a printed ticket or stored electronically using an account server, for example. In some cases, a player may not redeem his or her prize. In other cases, the player may not accumulate sufficient points, coupons, credits, etc. to enable the player to qualify for a prize, in which case, the points, coupons, credits, etc. may expire after a lapse period. Various other events may cause, the prizes, points, etc. to expire. The prize expiration and reissue module of the present invention provides a means for tracking these prizes to determine expiration, and upon certain conditions re-issuance of the expired prizes. According to one embodiment, the expired prizes are maintained and accumulated by the prize expiration and reissue module and awarded to players of the system upon the occurrences certain events. The prize expiration and reissue module may accumulate and award the expired prizes as a "secondary progressive prize" which are awarded to and shared by active players as described above. This arrangement provides an enhanced funding scheme for funding prizes for the secondary progressive prize. A similar arrangement may be used to fund the primary progressive prize.

The invention further relates to machine readable media on which are stored embodiments of the present invention. It is contemplated that any media suitable for retrieving instructions is within the scope of the present invention. By way of example, such media may take the form of magnetic, optical, or semiconductor media. The invention also relates to data structures that contain embodiments of the present invention, and to the transmission of data structures containing embodiments of the present invention.

Further advantages of the invention will be brought out in the following portions of the specification, wherein the

4

detailed description is for the purpose of fully disclosing the preferred embodiment of the invention without placing limitations thereon.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be more fully understood by reference to the following drawings, which are for illustrative purposes only.

FIG. 1 is a functional block diagram depicting an example progressive system in accordance with the present invention.

FIG. 2 is a functional block diagram depicting a gaming device in accordance with the present invention.

FIG. 3 is a functional block diagram depicting a second example progressive system in accordance with the present invention.

FIG. 4 is logical flow diagram depicting an example process for providing a primary and secondary progressive prize in accordance with the present invention.

FIG. 5 is logical flow diagram depicting an example process for paying out a primary and secondary progressive prize in accordance with the present invention.

FIGS. 6A, 6B, 7A, 7B, and 7C depict example status display indicators suitable for use with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Persons of ordinary skill in the art will realize that the following description of the present invention is illustrative only and not in any way limiting. Other embodiments of the invention will readily suggest themselves to such skilled persons having the benefit of this disclosure.

Referring first to FIG. 1, there is generally shown an illustrative progressive system 1 suitable for use with the present invention. The system 1 comprises a plurality of local area controllers 2, each operating in a local network 5, and plurality of gaming devices (or player terminals) 10, each operatively coupled for communication with a respective local area controller 2 via respective local network 5.

A progressive display 7 is provided on each local network 5 and is operatively coupled to the local area controller 2 for display of a primary jackpot progressive prize 40 and at least one secondary jackpot progressive prize 42. As described in more detail below, the primary jackpot progressive prize 40 is awarded to the player triggering the progressive payout event. The secondary jackpot progressive prize 42 is awarded to other eligible players as described more fully below. The prizes 42 and 40 are normally funded by play of the gaming devices 10 (e.g., a percentage of wagers, or from the pay table) and are generally displayed to the users via progressive display 7. Other means for funding the progressive prize are also suitable for use with the invention, such as funding the progressive prize through a marketing budget, for example. As described in another embodiment below, the secondary prize 42 may also be funded using "expired" awards (e.g., expired points, coupons, etc.), rather than through wagers placed at the gaming devices 10.

Each local area controller 2 may further be coupled to a wide area controller 6 via a suitable communication connection (e.g., wide area network, frame relay). Under such an arrangement, each of the gaming devices 10 in each network 5 contribute to the primary jackpot progressive prize 40 and the secondary jackpot progressive prize 42, which are each displayed at the local networks 5. Each local network 5 may reside at a separate site or casino location from the other local network, thereby allowing broader

5

participation among players visiting the various sites or locations. Additionally, with greater participation, the jackpots prizes **40, 42** accumulate to higher totals at a faster rate.

Other server systems **11** may also be provided for each network **5**. Other server systems **11** may include player tracking systems or accounting systems, for example. In accordance with one embodiment of the present invention, the other server systems **11** may also include a prize server system executing a prize expiration and reissue module which is configured to track expirable and/or expired prizes, which may be used to fund the progressive awards, as described more fully below.

Referring next to FIG. 2, there is generally shown a block diagram of an example gaming device **10** having a processor **12** coupled to a memory **14** suitable for executing an enrollment module. The enrollment module **32** is generally provided as part of the instructions/programming provided with the game **30**, which is played on the gaming device **10**. The game **30** generally includes a primary (or base) game and may also include a secondary (or bonus) game. The game **30** and the enrollment module **32** are normally provided as software instructions stored on a memory (such as an EPROM or other storage) which is read and executed by the processor **12** during operation. The operation of the enrollment module **32** is described more fully below.

The gaming device **10** is generally described herein as a conventional game machine, such as a slot machine, poker machine, keno machine, bingo machine, video lottery machine, and other like gaming device, although the enrollment module **32** is equally suitable for use with "table" games, where the functions are carried out in conjunction with management by a table attendant or dealer.

Referring again to FIG. 2, the gaming device **10** further comprises an input/output (I/O) interface **16** which is coupled for communication with the processor **12**. The I/O interface **16** allows a player to interact (i.e., provide input controls and receive output signals) with the game **30** and the processes of the enrollment module **32** executed by the processor **12** via a plurality of devices, generally designated as controls **18**, display device **20**, status indicator **22**, network interface device **26**, and other I/O devices **28** each of which are operatively coupled for communication to the I/O interface **16**.

The controls **18** generally comprise input buttons, switches, touch-screen controls, and/or other input controls to allow a player to provide game input to the gaming device **10** such as player options, selections, game commands, among others. The display device **20** generally comprises a monitor or other video output device (e.g., LCD panel) for communicating game output information to the player. The status indicator **22** as described more fully below provides a display or indicator to the player and indicates status information to the player (e.g., player status, active status time remaining). The network device **26** generally comprises a communication device such as a network card or serial device for communicating with other network devices (e.g., back-end servers) via a network which is generally coupled to the network device **26**. Other I/O devices **28** may also be provided, such as speakers, lights, alarms, etc.

The enrollment module **32** which is executed by the processor **12** carries out several operations to track and maintain the player's status. As noted above, various criteria may be used to define a player's eligibility for sharing in the secondary progressive prize **42**. For example, a player may be required to place a wager (or specific type of wager such as "maximum bet") within a certain time period after

6

completing the previous game. The enrollment module **32** monitors the gaming device **10** to determine whether the requirements for eligibility have been met. The enrollment module **32** also indicates the player's status through the status indicator **22**. The enrollment module **32** further notifies the player when the player's status is about to expire or change from "active" to "inactive." Various warnings using visual display indicators (status indicator **22**) and/or sound output devices (e.g., speakers) may be used to alert the user. Example display indicators are described below in conjunction with FIG. 6 and FIG. 7.

Referring now to FIG. 3, another illustrative system **50** is shown including a wide area progressive prize **52**. Under this arrangement, three progressive prizes are made available at each local casino network **56**: a primary prize **40**, at least one secondary prize **42**, and at least one "Wide Area" (WAC) Prize **52**. A progressive display **54** at the local casino **56** may be used to display the amounts of each of the progressive prizes. The local casino networks **56** (and other local casino networks **58**) are coupled for communication with a central wide area progressive controller **62**, through a network communication system, such as a wide area network (WAN) system. A communication module **70** operating within each of the wide area controller **62**, the local controllers **64**, and the gaming devices **10** enable network communication between the devices of the system. In general, the communication module **70** comprises suitable network hardware (e.g., network interface cards, cabling) and software (e.g., communication software, protocols, network drivers) to enable communication between data processing devices.

At the local level **56**, the primary prize **40** and secondary prize **42** may be funded using a progressive funding model as described above (e.g., using a percentage of wagers from gaming devices from the local network **56**, marketing funds, etc.) by a funding, module **66** executed by a local progressive controller **64**. At the wide area level, the WAC prize **52** may be funded using a similar funding scheme (e.g., using a percentage of wagers made from gaming devices from all of the local networks **56, 58**) by the funding module **68** executed by the wide area progressive controller. The WAC prize **52** may be defined as a primary prize in which case it is won by the player triggering the progressive win event; or it may be defined as a secondary prize in which case it is shared by all active players (from all networks **56, 58**) the occurrence of a progressive win event. In other embodiments, the system **50** may define two WAC prizes, one of which is a primary prize, the other which is a secondary prize.

As depicted in FIG. 3, the gaming devices **10** include a status indicator **22** to display the status of the player. In the example status indicator **22** of FIG. 3, the status indicator comprises a status display **72**, a time left display **74**, and a text display **76**. The status display **72** indicates either a status of "active" or "inactive." The time left display **74** displays the time left (e.g., in seconds) before the player's status changes from "active" to "inactive." The text display **76** may be used to indicate text messages to the player, such as a warning message that the player's active status is expiring, for example. The gaming device **10** communicates with the local controller **64** to communicate, among other things, the player's status. This status information is maintained by the local controller **64** in an enrollment status database **78**. Under this arrangement, the status of the player can be ascertained and verified by the gaming device **10** and/or the local controller **64**, either together in independent of the other.

Referring next to FIG. 6A and FIG. 6B, example status indicator displays 22 are shown. In FIG. 6A, the player's status is indicated as "Active." The display 22 further indicates that the player's status is only in effect for a time period (e.g., five (5) more seconds), and that the player must place a wager within that time period in order to remain "active" status. In FIG. 6B, the player's status is indicated as "Inactive." The display 22 further indicates that the player must place a wager in order to become "active" status. Display 22 may be shown in a gaming device using separate display devices or may be shown occupying a portion of the main display of the gaming device.

Referring now to FIGS. 7A through 7C, additional example status displays 80 representing analog gauges are shown. The gauges 80 may be physical analog devices controlled by the gaming device or may be a graphical representation of an analog display on a display device. The display 80 includes a movable needle 82 which rotates to define the active/inactive status of the player as well as the time period remaining for active status. Markings 83 define the time period remaining for active status as the needle sweeps from one end 87 to the inactive end 85. Text indicator 84 defines the player's status as either "active" (FIG. 7A and FIG. 7B) or "inactive" (FIG. 7C). Text indicator 86 further informs the player that the player's status is only in effect for a time period (e.g., 10 seconds in FIG. 7A, 5 seconds in FIG. 7B), and that the player must place a wager within that time period in order to remain "active" status. In FIG. 7C, the needle 82 rests in the inactive position when the status of the game/player is "inactive"; text indicator 86 further indicates that the player must place a wager in order to become "active" status.

The method and operation of invention will be more fully understood with reference to the logical flow diagrams of FIG. 4 and FIG. 5, as well as FIG. 1 through FIG. 3, and FIG. 6 and FIG. 7. The order of actions as shown in FIG. 2 and FIG. 3 and described below is only illustrative, and should not be considered limiting.

FIG. 4 is a flow diagram showing an example process associated with providing a primary progressive prize and a shared progressive prize in accordance with the present invention. In this example process, the requirements for "active" status necessitates placing a predefined wager (e.g., at least one credit, maximum bet) within a time limit (e.g., within twenty (20) seconds from the conclusion of the previous game). As described above, various other criteria may be used to define "active" status and "inactive" status which are anticipated for use with present invention. This process starts at block 100 where a gaming device 10 is provided for play in a casino environment. Initially, the gaming device 10 initiates a player's state to "inactive." Thus the status display 22 will initially indicate the player's state as inactive.

At block 110, a player provides game credits for play on the gaming device 10. The game credits are normally credited to a credit meter and tracked by the gaming device 10 for use in placing wagers. Various means for providing game credits may be used such as through bill acceptors/coin acceptors; cashless devices (e.g., player accounts, ticket accounts, bank accounts), among others.

At block 120, the player wagers one or more credits for play on the gaming device 10. As described above in some embodiments, a percentage of the wager may be used to fund the local progressive prize (primary and/or shared secondary) and/or the Local progressive prize 52 (primary and/or shared secondary). In other embodiments, the pri-

mary and/or shared progressive prizes (whether local or WAC) may be funded from expired prizes (e.g., points, prizes, coupons, etc).

Next at block 130, the player's status is changed to active if the requisite wager (e.g., at least one credit, maximum bet) is placed by the player at block 120. The status indicator 22 is also updated to reflect the player's "active" status. The gaming device 10 may communicate this change of status to the local controller 64 to update the player's status in the enrollment status database 78. Any countdown timers which are counting down are also reset/stopped until the game has concluded.

At block 140, the player initiates game play, normally by pressing a button or pulling a handle. The game of chance is then played in accordance with the rules of the game.

At decision block 150, a determination is made whether a progressive win event has occurred. As described above, the progressive win event may be conditioned upon play of the gaming device 10 or may be centrally determined (e.g., by the local controller 64). If a progressive win event has occurred, block 160 is carried and the payout process is initiated. This payout process is described more fully below in conjunction with FIG. 5. If a progressive win event does not occur during play of the gaming device, block 170 is then carried out.

At decision block 170, a determination is made whether the game of chance is over. If so, block 180 is then carried out. Otherwise, decision block 150 is repeated.

At block 190, the play of gaming device 10 has concluded. The countdown timer (e.g., example countdown timers of FIG. 6 and FIG. 7) is reset and started. As described above, the countdown timer may be used to indicate the time remaining before the player's status changes to "inactive." Associated text displays may be used to communicate what the player must do to remain active (e.g., place a wager).

At decision block 190, a determination is made whether the player places a wager. If the player places a wager, block 130 is then carried out to play the next game. If not block 200 is then carried out.

At decision block 200, a determination is made whether a progressive win event has occurred. For example, another player playing a different gaming device may trigger a progressive win event. Other events may be also be used for triggering the progressive win event as discussed above. If a progressive win event has occurred, the player is an active player and qualifies for the shared progressive prize. The payout process is then carried out at block 160 and as described more fully below in conjunction with FIG. 5. If a progressive win event has not occurred decision block 210 is then carried out.

At decision block 210, the enrollment module determines whether the countdown has been exceeded. If so, block 230 is then carried out. Otherwise block 220 is then carried out.

At block 220, the countdown has not been exceeded and the player's status remains "active." The countdown is updated and the updated countdown is displayed to the user. Block 190 then repeated.

At block 230, the countdown has been exceeded, and the player's status is changed to "inactive." The status display 22 is updated to reflect the change of status. Block 120 is then repeated when a player places a wager. The gaming device 10 may communicate this change of status to the local controller 64 to update the player's status in enrollment status database 78.

Referring now to FIG. 5, a logical flow diagram describing the payout process in accordance with the present invention is generally shown.

Block 160 is triggered from either block 150 or block 200 of FIG. 4. Upon the progressive win event occurring block 300 is carried out.

At block 300, the progressive win event is reported to the progressive controller. The communication is typically sent by the gaming device 10 on which the progressive win event occurs.

At block 310, the primary prize is paid to the player triggering the progressive win event. Normally this involves a casino attendant providing a "hand-pay" of the progressive amount to the player. "Hand-pay" for purposes of this application generally means the conventional understanding in the industry (e.g., completing the transaction away from gaming device between the player and a casino attendant and an exchange of documentation or forms).

At decision block 320, a determination is made whether there are any active players. This determination can be made from the enrollment status database 78 and/or by querying each of the gaming devices participating in the system. If there are any active players, block 330 is then carried out. In some cases there will always be an active player if the player triggering the progressive win event qualifies as an active player.

At block 330, the shared secondary prize is paid to each of the active players. If the shared secondary prize is in the form of credits or monies, the value may be directly credited to the meter of the gaming device 10. In other cases, the shared amount may be paid by the attendant as a "hand-pay." In the example embodiment where the player receives expired points, coupons, prizes, the player may be issued the points, coupons, prizes, etc. through vouchers or other account systems. The expiration for the newly issues points, coupons, prizes, etc. is reset for a new expiration term.

At block 340 the payout process is completed. The above process may be used to payout both local prizes as well as WAC prizes, whether primary or shared secondary.

As described above, the secondary progressive prize may be funded using expired (or expiring) prizes (coupons, points, game pieces, etc.). By way of illustration, an example embodiment using a simple point structure is described herein, although embodiments utilizing other formats (coupons, game pieces, vouchers, etc.) are suitable for use with the present invention.

The expired points arrangement provides that points may be accumulated and earned by a player during normal game play of a gaming device, that the points may expire after certain time periods and/or when other conditions are met, and that the expired points may be re-issued to players in the form of shared progressive awards. In some cases, the points may be awarded pursuant to criteria independent of play of the gaming device (e.g., free promotional points, comp points, etc.).

To illustrate the an example point system, consider a slot machine version of a gaming device, were one of the reel symbols is a "silver" prize. Depending on the number of "silver" prizes aligning on a wagered payline, a player is awarded a number of "silver" points. The points may be accumulated by the player and once a certain number are collected, the points may be exchanged for a "silver level" prize. The points may be accumulated, for example, through a database such as a points account system, a player account system, or anonymously through a ticket/voucher system tracking points. Other prize levels, such as "gold" and "platinum" could also be implemented in a similar manner.

The points may further have an expiration period, such as thirty (30) days from issuance, for example. As described above, a "prize expiration and reissue module" operating in a local controller device or other central server machine (e.g., a prize server) may be used to track points, including expiration. Once points expire, the points may be added to a pool of points available for payout as a shared progressive prize as described above (i.e., funding the progressive prize). Using the example "silver" prize from above, the progressive triggering event may be five (5) "silver" symbols aligning on a wagered payline with maximum bet. When the progressive win event occurs, the primary progressive prize may be awarded to the player playing the gaming device triggering the win event, while the accumulated "expired points" may be awarded (re-issued) to "active" players as the shared secondary progressive prize. Upon re-issuance of the points, the expiration period may be reset, establishing a new expiration period for the re-issued points. These points may also expire and be accumulated again into another shared secondary progressive prize. Under this arrangement, the system provides means for utilizing and awarding points which would otherwise have been expired and unused. In yet another alternative arrangement, the expired points may also be used to find the primary progressive prize as well as or instead of the secondary shared progressive prize.

Although the description above contains many specifics, these should not be construed as limiting the scope of the invention but as merely providing an illustration of the presently preferred embodiment of the invention. 30 Thus the scope of this invention should be determined by the appended claims and their legal equivalents.

What is claimed is:

1. A progressive system for paying out a primary progressive prize and a secondary progressive prize comprising:

35 a progressive controller including a controller processor and controller memory;

a progressive display coupled to said progressive controller; funding module programming executed by said controller processor in said progressive controller, said funding module programming configured to maintain a primary progressive award and at least one secondary progressive award, said progressive display configured to display said primary progressive award and said at least one secondary progressive award and further configured to award said primary progressive award upon the occurrence of being notified of a win event and further using said notification of a win event for said primary progressive to determine a distribution of said at least one of said at least one secondary progressive award;

a plurality of game devices, each having a corresponding game processor and game memory;

a status indicator coupled to each said game device and useable to indicate said game device's current eligibility to participate in said at least one secondary progressive award;

a network connecting each said game device to said progressive controller and to provide for communication therebetween;

a game of chance executed by each said corresponding game device;

enrollment module programming executed by each said corresponding game device, said enrollment module programming configured to:

monitor said corresponding game device for a progressive winning event; maintain the status of said corresponding game device as to its eligibility to par-

11

participate in at least one of said at least one secondary progressive award, said eligibility useable during said determining of a distribution;
indicate the game said maintained current eligibility status of said corresponding game device on said status indicator.

2. The progressive system of claim 1, wherein each said game device further comprises a base display, said status indicator occupying a portion of the base display.

3. The progressive system of claim 1, the progressive controller further configured to:

ascertain when a progressive winning event occurs on one of said game devices;

award said primary progressive award to the player of the game device on which a progressive winning event occurs; and

award the entirety of said secondary progressive award between players of each of the game devices which have an active status when the progressive winning event occurs.

4. The progressive system of claim 1, wherein the primary progressive award and the secondary progressive award are funded from a percentage of wagers placed on the game devices.

5. The progressive system of claim 1, further comprising a prize server and a prize expiration and reissue module executed by the prize server, the prize expiration and reissue module configured to:

maintain expiring prizes issued by the game devices, said expiring prizes having an expiration period after issuance and constituting expired prizes after said expiration period; and

fund the expired prizes to the secondary progressive award upon expiration of the expiration period.

6. The progressive system of claim 1, wherein said status indicator further comprises a countdown meter, said countdown meter indicating a period of time after which the state of the game status of the game device becomes inactive.

7. A method for providing a primary progressive prize and a secondary progressive prize in a gaming system having a progressive controller coupled for communication to a plurality of game devices, said method comprising:

maintaining a primary progressive award by the progressive controller;

maintaining at least one secondary progressive award by the progressive controller;

providing a progressive display coupled to the progressive controller;

displaying the primary progressive award and the secondary progressive award on the progressive display;

providing a status indicator usable to display current eligibility for said at least one secondary progressive award on each of the game devices;

maintaining the status of the game devices as to each game device's current eligibility for said at least one secondary progressive award;

indicating the status of each of the game devices on the status indicator as to each of said game devices' current eligibility for said at least one secondary progressive award; and

using a win event for said primary progressive award to initiate some form of distribution of said secondary progressive award, said distribution using said maintained status of said game devices.

8. The method of claim 7, further comprising monitoring each of the game devices for a progressive winning event.

12

9. The method of claim 8, further comprising:

ascertaining when a progressive winning event occurs on one of the game devices;

awarding the primary progressive award to the player of the game device on which the progressive winning event occurs; and

awarding the entire secondary progressive award between players of each of the game devices which have an active status when the progressive winning event occurs.

10. The method of claim 8, wherein the primary progressive award and the secondary progressive award are funded from a percentage of wagers placed on the game devices.

11. The method of claim 8, further comprising:

maintaining "expiring prizes" issued by the game devices, said expiring prizes having an expiration period after issuance and constituting expired prizes after said expiration period; and

funding the expired prizes to the primary progressive award upon expiration of the expiration period.

12. The method of claim 8, further comprising:

maintaining "expiring prizes" issued by the game devices, said expiring prizes having an expiration period after issuance and constituting expired prizes after said expiration period; and

funding the expired prizes to the secondary progressive award upon expiration of the expiration period.

13. The method of claim 8, wherein said status indicator further comprises a countdown meter, said method further comprising indicating, on the countdown meter, a period of time after which the state of the game status of the game device becomes inactive.

14. A method for funding a progressive award in a gaming system having a progressive controller coupled for communication to a plurality of game devices, said method comprising:

providing "expiring prizes" which may be issued by the game device pursuant to play thereon;

maintaining "expiring prizes" issued by the game devices, said expiring prizes having an expiration period after issuance and constituting expired prizes after said expiration period;

funding the expired prizes to at least one primary progressive award upon expiration of the expiration period; and

awarding said at least one primary progressive award to a player of one of the game devices triggering a progressive winning event.

15. The method of claim 14, further comprising:

funding at least a portion of the expired prizes to at least one secondary progressive award; and

awarding the secondary progressive award between players of each of the game devices which have an active status when the progressive winning event occurs.

16. The method of claim 14, further comprising:

providing a status indicator on each of the game devices; maintaining the status of the game devices; and

indicating the status of each of the game devices on the status indicator.

17. A method for funding a progressive award in a gaming system having a progressive controller coupled for communication to a plurality of game devices, said method comprising:

providing "expiring prizes" which may be issued by the game device pursuant to play thereon;

13

maintaining "expiring prizes" issued by the game devices, said expiring prizes having an expiration period after issuance and constituting expired prizes after said expiration period;

funding a primary progressive award from a percentage of wagers placed on the game device; 5

funding the expired prizes to at least one secondary progressive award upon expiration of the expiration period;

awarding said at least one primary progressive award to a player of one of the game devices triggering a progressive winning event; and 10

14

awarding the secondary progressive award between players of each of the game devices which have an active status when the progressive winning event occurs.

18. The method of claim 17 further comprising:

providing a status indicator on each of the game devices;

maintaining the game devices; and

indicating the status of each of the game devices on the status indicator.

* * * * *

RELATED PROCEEDINGS

RELATED PROCEEDINGS APPENDIX

None. There are no related proceedings